# AMERICAN ANTIQUITY

UM LIBRARY
E
51
A495
OCT 1 7 1945

VOLUME XI
NUMBER 2
OCTOBER 1945

PUBLISHED BY THE SOCIETY
FOR AMERICAN ARCHAEOLOGY

## THE SOCIETY FOR AMERICAN ARCHAEOLOGY

### OFFICERS

*President:* CARL E. GUTHE, New York State Museum, Albany 1, New York.

*First Vice-President:* JAMES B. GRIFFIN, Museums Building, Ann Arbor, Michigan.

*Second Vice-President:* GREGORIO HERNANDEZ DE ALBA, Bogotá, Colombia.

*Secretary:* WALDO R. WEDEL, U. S. National Museum, Washington 25, D. C.

*Treasurer:* FREDERICK JOHNSON, Phillips Academy, Andover, Massachusetts.

*Editor:* DOUGLAS S. BYERS, Phillips Academy, Andover, Massachusetts.

*Associate Editor:* FRANK H. H. ROBERTS, JR., Bureau of American Ethnology, Smithsonian Institution, Washington 25, D. C.

*Assistant Editors:* HENRY B. COLLINS, Arctic; E. W. GIFFORD, Pacific Coast; PAUL REITER, the Southwest; WALDO R. WEDEL, the Plains; JAMES B. GRIFFIN, the Northern Mississippi Valley; WILLIAM A. RITCHIE, the Northeast; WILLIAMS S. WEBB, the Southeast; GORDON F. EKHOLM, Middle America; GORDON R. WILLEY, South America; FRANK H. H. ROBERTS, JR., Early Man.

*Members of the Council:* The President, First Vice-President, Second Vice-President, Secretary Treasurer, Editor, Associate Editor, and MATTHEW W. STIRLING and J. GILBERT MC ALLISTER to 1946, J. OTIS BREW, and J. ERIC S. THOMPSON to 1947, ELI LILLY and CHARLES R. KEYES, to 1948, GORDON F. EKHOLM and E. W. GIFFORD to 1949.



AMERICAN ANTIQUITY is printed by the George Banta Publishing Company, 450-454 Ahnaip Street, Menasha, Wisconsin, U.S.A.

Published by the SOCIETY FOR AMERICAN ARCHAEOLOGY, during the months of January, April, July and October. Subscription by membership, annual dues $4.00, includes quarterly issues of AMERICAN ANTIQUITY and other releases, as issued.

Entered as second-class matter July 22, 1935, at the post office at Menasha, Wisconsin, under the Act of March 3, 1879.

**Manuscripts and publications for review should be sent to the Editor, Douglas S. Byers.**

**Subscriptions and orders for back numbers should be addressed to the Treasurer, Frederic Johnson.**

**Please address all requests for information to the Secretary, Waldo R. Wedel.**

AMERICAN ANTIQUITY

VOL. XI OCTOBER, 1945 NO. 2

# EXCAVATIONS AT KAMINALJUYU, GUATEMALA

A. V. KIDDER

I SUPPOSE every digger has at one time or another yearned for a potoscope or dreamed of an archaeologically-endowed hazel bush whose twigs would tug and dip to well-stocked graves. But if such sure-fire indicators existed, I doubt if fieldwork would be as much fun as it is. Would fishing have quite the same lure if every cast brought a strike? For better or worse, archaeology is a great gamble; each new site offers unlimited possibilities of surprise. So although the introductions to our reports often let it be inferred that our finds have been the result of keen scientific foresight, very few excavations, I imagine, turn out as we expect them to. It was certainly that way at Kaminaljuyu.

The word Kaminaljuyu is quite a mouthful. It means, in the Quiché language, "Hills of the Dead"—the *juyu* being the hilly part of the term. Which reminds me of S. K. Lothrop's remark that the name of another Guatemalan site, Cheerijuyu, would make a good toast at an archaeologist's party. Kaminaljuyu, or K.J., as it is known to its intimates, rates a long name, for it consists of some two hundred mounds covering an area of about five square kilometers in the outskirts of Guatemala City. It has been known for a long time, having been mentioned as early as the eighteenth century by Fuentes y Guzman. A hundred years elapsed before it again came to notice and then it was contemptuously dismissed by C. H. Berendt, who said in the Smithsonian report for 1877, "There might be named hundreds of other places in Central America more likely to give returns." No excavation was done there until 1925, when Manuel Gamio, the Mexican archaeologist, made stratigraphic tests on the Finca Miraflores, one of the several farms into which the site is divided. Gamio's work had the important result of bringing to light potsherds and clay figurines recognized by him as analogous to those of the Valley of Mexico Archaic. Kaminaljuyu was thus shown to have been settled at an early date. Shortly thereafter, Lothrop published a study of its numerous stone sculptures, which indicated that its occupancy had extended well into the Classic or Old Empire period of the Maya.

Gamio's finds and Lothrop's data on the sculptures made it evident that Kaminaljuyu had had a long pre-Columbian history. It therefore seemed to be a likely place for finding deposits representative of at least two phases of Guatemala highland culture. So, in 1935, Oliver Ricketson and I put in a couple of weeks doing another test section at the place where Gamio had worked. But although we got a large amount of material, we had the bad luck to pick a spot in which the ancients had dug several deep pits. These had messed up the stratigraphy pretty badly. We therefore planned, for the next season, to look for a less disturbed part of the midden. But, as I said at the beginning, things never turn out the way you think they are going to, and it was three years before we had time even to look at Miraflores again. What happened was this:

The then Secretary of Education, Dr. J. Antonio Villacorta, eminent historian and, when opportunity offered, excavator, had some years before dug in one of the Kaminaljuyu mounds and uncovered a stairway of burned adobe. He had been, perhaps, a little overenthusiastic about this discovery—or more likely the newspapers played it up too strongly. At all events, unkind persons held that the Secretary had found nothing more exciting than an old brick kiln. There was, I have heard, quite a controversy. So Dr. Villacorta naturally kept his eye open for any further evidence which might prove his stairway to have been the real McCoy. His opportunity came in the autumn of 1935.

On the Finca La Esperanza, at the eastern edge of the site, were two grass-covered mounds, fairly good-sized but far smaller than scores of others at Kaminaljuyu. No one had paid any attention to them and probably never would have if they had been 100, rather than 90, meters apart. That 10-meter deficit made the flat ground between them just too short for a regulation association football field, so a local club that wanted to use the land got permission from the owner to lengthen it by cutting a slice off the face of each mound. The work on one of them had been done and was under way at the second when Dr. Villacorta happened to drive by, saw what was going on, and went in to have a look. He found that a sloping, plaster-covered surface was being destroyed, stopped the digging, and had his son Carlos, then Director of the National Museum, run in a small exploratory trench. This showed that the slope formed part of a buried structure, apparently in good condition. The trench was then refilled and Dr. Villacorta asked if the Carnegie Institution would care to make further investigations. We agreed to do so, for the potsherds found by Carlos Villacorta were not of Miraflores types. Furthermore, aside from the "brick-kiln" stairway, no remains of buildings had appeared at any of the Kaminaljuyu mounds and we were keen to learn something of the site's architecture.

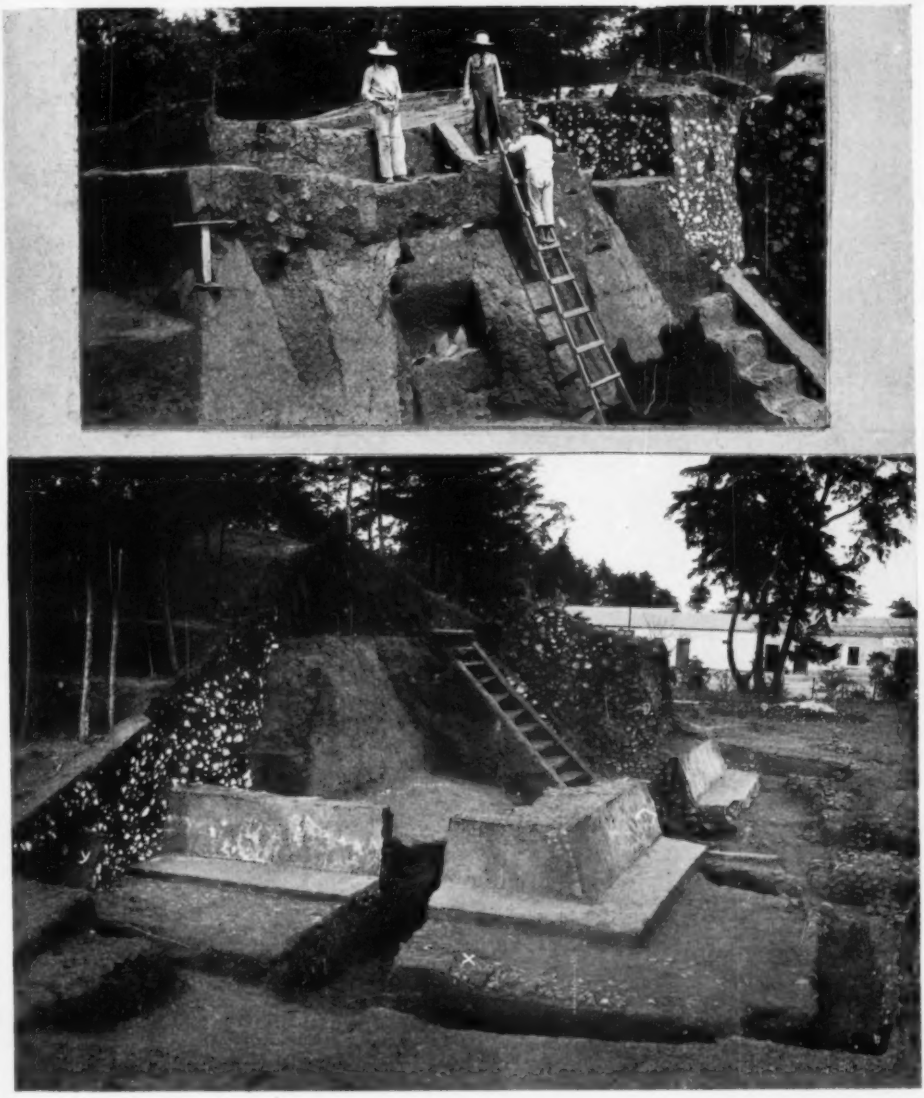
Oliver Ricketson and I accordingly went out and examined the mound. It was about six meters high and twenty in diameter. The surface exposed by the footballers seemed to be the basal slope of some kind of substructure which we figured could be cleared in three weeks or so at a cost of about a hundred dollars. We started work a few days later, but before a month was out I was cabling Washington for a special extra appropriation. Those three weeks stretched into three full field-seasons, two more years in repair and study of the specimens we found, and a longer time than I like to think of in getting the report written. It is in press now, though, and, paper priorities permitting, should be out early in 1946. It will be a long, detailed monograph that no one outside the Mesoamerican field could be expected to wade through. But the difficulties and complexities we encountered in the excavation of the two mounds —we couldn't keep our hands off the other— illustrate so clearly the sort of trouble one runs into in Guatemala highland digging; and the things we found have such wide bearings on general problems of Mesoamerican prehistory that it seems worthwhile to present in AMERICAN ANTIQUITY a brief summary of the work and its results.

By way of preview, I may say that Mound A, the one in which the sloping surface had appeared, turned out to be like one of those trick Chinese wooden eggs, in that it contained no less than eight structures, one inside the other. In addition, there were six pit-tombs, evidently the graves of important and wealthy personages (Fig. 7*a*, *b*). Mound B was somewhat, but not very much, easier, for it had only five structures and four main tombs. Also, by the time we tackled it we knew more about what we were going to find. It will probably be best to describe the digging as it actually progressed, although the elements in the complex had, of course, been erected in reverse order.

We started well outside the mound with a series of trenches sunk to and run in along the top of sterile subsoil. Before we even reached the original exposure we got the first of the long succession of surprises that those two mounds had in store for us. We had supposed Mound A to be a simple, one-period structure and that the sloping surface exposed by Carlos Villacorta had been covered by debris from the disintegra-

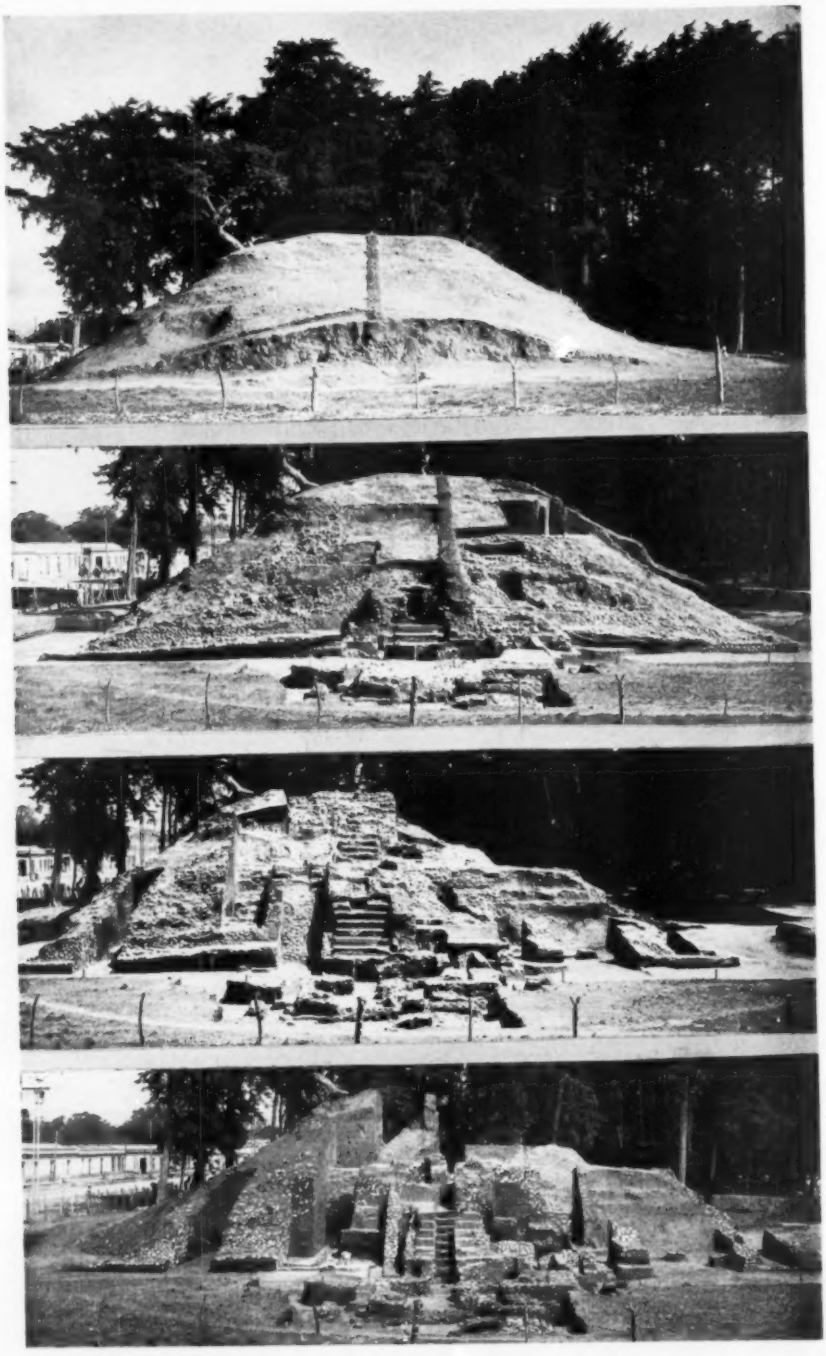
Kaminaljuyu, Mound A:

*Above:* Work on inner structures. Strs. A-7 and A-6 have been almost entirely removed and A-5 is being excavated. Pumice lump and mud fill of Str. A-7 appears at right. Oblique dark area next within and dark area at lower left are adobe fill of A-6; portion of A-6's stairway at lower right remains as control (complete stairway shown in lower photo.). Whole lighter-colored inner mass is Str. A-5's pyramidal adobe substructure, its heavy cornice supported by wooden T. All that remained of stairway was top of right balustrade (between workmen). Summit platform (behind left-hand workman) badly sagged because of collapse of roof of tomb that lay far below. Center front of pyramid broken and displaced downward because of roof-failure of another tomb. Rough area running down at right of wooden T is anciently filled hole for one of four large cornerposts of Str. A-7's temple. Four successively smaller structures were later found within A-5. *Below:* Picture taken before presence of Str. A-5 was suspected. Str. A-6 has been exposed and its well-preserved stairway cleared. Basal step and lowermost sloping zone of A-7 (cf. Fig. 7*a*, *b*) surround A-6; exploratory cut in center foreground; gap in sloping zone at right marked former presence of A-7's stairway. Of Str. A-8 almost nothing remained, except parts of its basal step (x) and lowermost sloping zone (y).



Kaminaljuyu, Guatemala, Mound A.

(See facing page for caption.)



Kaminaljuyu, Guatemala. Dissection of a mound.
(See facing page for caption.)

tion of its upper parts. But outside it we encountered the remains of a later building (Pl. VII, *lower*, x, y). This was so badly gone—we afterward found it in better shape on another face of the mound—that we noted what we could, calling it, in our innocence, Structure B. We then cleared it away to get at the more promising Structure A. The lower parts of A proved to be in fine condition. It was pyramidal and had been built of waterworn lumps of pumice laid in stiff black clay. This hearting was veneered with an almost concrete-hard mixture of lime and volcanic gravel, finished with pure white lime. There was a basal step from which rose a sloping zone (the element first encountered); the latter was topped by a molding-framed vertical zone. These constituted the first terrace, a second was of identical construction and carried the pyramid to a summit platform that had borne a temple which had been completely razed by the builders of Structure B; the ground plan of its single chamber could be determined from the holes that had held its four corner-posts. The restoration of the superstructure drawn by Miss Proskouriakoff (Fig. 7*c*) is, aside from the basal dimensions, entirely hypothetical. The substructure, however, is correctly rendered, although we were in doubt as to details above the lowermost sloping zone until the second season; and not certain regarding all of them until the third year, when we excavated Mound B and found parts of a practically identical building in better condition.

Structure A (it afterward became Number 7) at first puzzled us greatly because it appeared to have no stairway. But when we had cleared the whole front we found a gap of about the right width in the sloping lower zone (Pl. VII, *lower*). We guessed—and this was one of the few times we were correct at the first go-off—that this marked the former position of the stairway; and as we wanted to examine the pyramid's fill, we took advantage of the gap to push a cut inward. And immediately we got our second surprise, for an hour's digging brought to light a flight of adobe steps in perfect preservation (Pl. VII, *lower*). So now we had three structures and, clinging subbornly to our original nomenclature, we called this one A-sub.

To make a long story short, we found five more: the earliest three rectangular, vertical-walled blocks of adobe, which probably did not have superstructures; the next three adobe pyramids, which certainly did, as we found post-holes and, in one case, the clear print of the wall; finally, two pumice and mud pyramids. The degree of exactitude with which we were able to determine the original form and dimensions of the successive increments naturally varied, but in every case it was possible to recover reasonably satisfactory data. We were amazingly fortunate. Of one pyramid, for example, the stairway was perfectly preserved, but above it almost nothing had survived. Of a second, we found only vestiges of the stair, but the entire summit platform was intact (Pl. VII, *upper*). In still another case, a narrow strip of the platform remained to indicate its former height. Furthermore, several of the structures had obviously been so much alike that the nature of elements missing from one could often confidently be postulated from corresponding parts of another. We made a number of blunders, some relatively serious, some apparently unimportant. In extenuation of our shortcomings, I may say that as we were dealing with remains of a type entirely unfamiliar to us; we never knew what we were likely to encounter. Our approach, therefore, though cautious, was often fumbling. In addition, each of the seven inner buildings had been considerably damaged, and certain of them had been almost completely destroyed in course of the erection of their successors. Recent terracing and the cutting involved in the lengthening of the football field had removed other important evidence. Finally the very extensive settling which took place as

---

Kaminaljuyu, Dissection of a Mound:

*Upper:* Mound B before excavation. Sod has been removed, save for lines at right angles set with survey stakes. Cut across front made to lengthen a football field. *Second:* Remains of latest building, Str. B-5, exposed (see well-defined corner at right). Stairway of this building completely destroyed, steps showing at center are those of B-4. *Third:* Lower flight of B-4 stairway cleared and badly ruined steps of flight from terrace to summit platform exposed. At left of stairway is B-4's lower sloping zone. *Bottom:* Exploratory cuts pushed deeper, bringing to light temporary earlier stairway of B-4; and penetrating to Str. B-3, the slope of whose adobe pyramid forms the right side of the V-shaped notch at upper center. Note that parts of all structures have been preserved as long as possible to serve as controls.

a result of the failure of tomb roofs or the compacting of their fills caused most confusing vertical displacements (Pl. VII, *upper*).

Even the lucky accidents of preservation just mentioned would not have served us as they did, had it not been for the intelligence, keen observation, and limitless patience of my two assistants, J. D. Jennings and E. M. Shook. Jennings, who was with me the second year, did the really difficult work on the remnants of the five innermost structures in Mound A, while I gave myself the much more congenial task of clearing tombs. And Shook, in the third season, handled the equally difficult job of dissecting Mound B, I, in the meantime, working on potsherds. No small part of Jennings' and Shook's success was due to their careful coaching of the workmen, who quickly became interested and who proved to be better than any of us at spotting the subtle differences in texture and color which often gave us our first indication that we were passing from one adobe building into another. On several occasions they saved us from cutting away construction the loss of which, before it was recorded, might have been disastrous.

To get back to the first year's digging, I had noticed, before the central approach trench had quite reached the mound, a yellow area in the subsoil. At the time, I put it down as a natural outcrop of a volcanic deposit locally called *talpetate*, which appears on the surface here and there at Kaminaljuyu. But thinking it over, I got a little suspicious and had the trench floor recleaned. Close examination showed flecks of charcoal in the *talpetate*, and as these had no business to be in an undisturbed formation, I went deeper. Soft, dark earth full of potsherds appeared. I put a man to sinking a test-hole. He went down and still down. This was exciting. It looked as if we had hit a tomb but I was awfully afraid it might be only a rubbish pit. At three meters from the surface, though, we came to a floor; and right where we struck it there lay a crushed pottery vessel and fragments of bone!

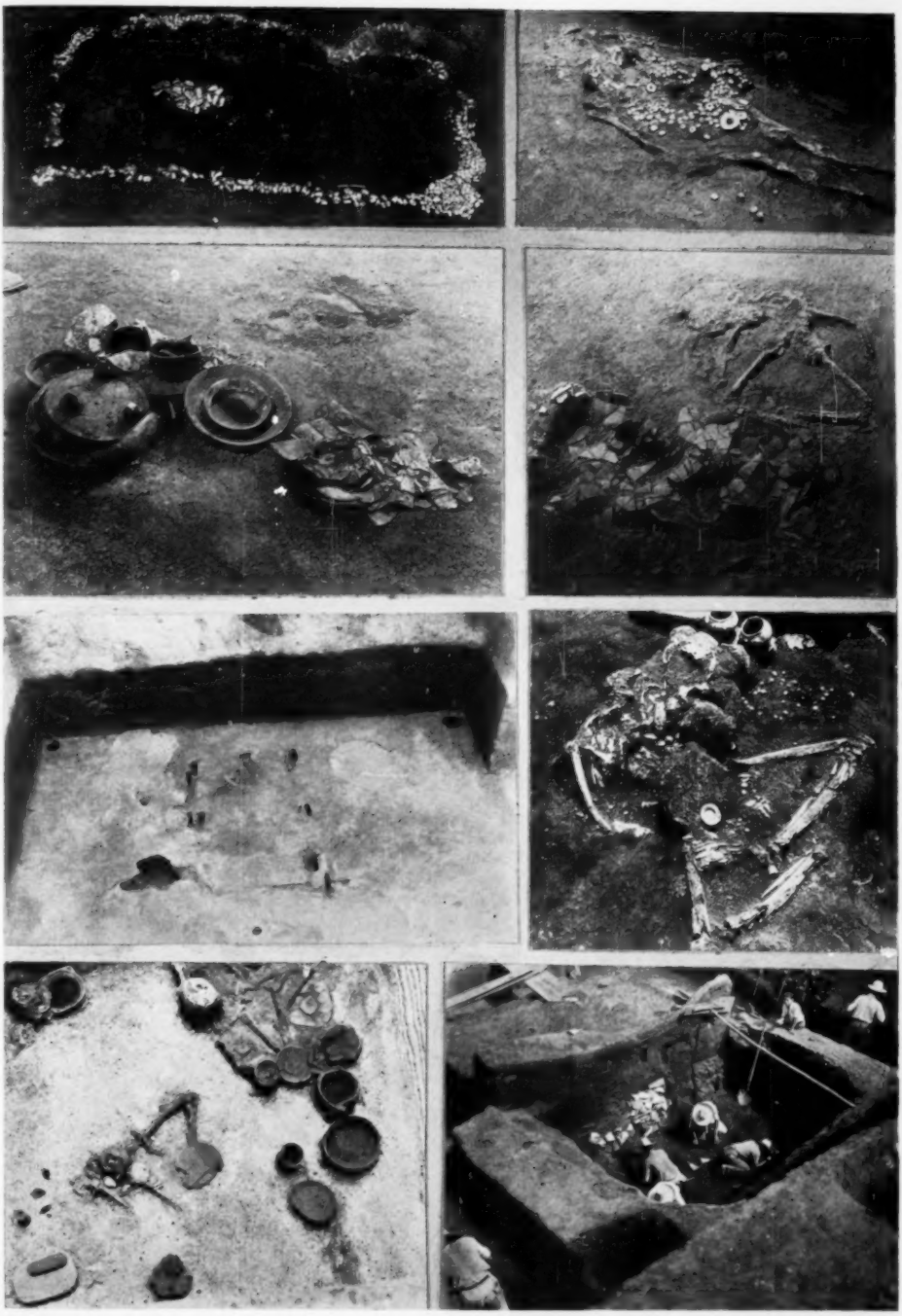
I should, of course, have laid off the tomb until the general situation was clearer (at that time I was running the work alone, for Ricketson had been taken sick), but I was so anxious to see what it contained that I at once had the pit enlarged, thereby destroying evidence I later needed very badly as to its fill and as to the grave's relation to a platform that was afterward found to have covered it. Nor did I handle any too well the cleaning and recovery of the material it contained. Fortunately, however, this tomb, although it held many fine things, was the poorest at Mound A and was much the best of the series to have cut my teeth on. I got from it much valuable information as to how interments of this sort should, or rather should not, be excavated.

While I was working in the tomb, I kept thinking about the ripped-out stairway of what I was still calling Structure A. The digging at that point had not yet reached bottom and I wondered if the stairs could have been removed to put in another tomb. I therefore sank a pit in the gap and sure enough, there *was* a tomb. This and the first one were aligned on the central axis of the mound. Maybe, I thought, there might be still another further out, beyond the beginning of the approach trench. There was. I certainly had a bull calf by the tail. So, exercising almost superhuman restraint, I de-

---

Kaminaljuyu Tombs:

*Upper left: Oliva* shell "tinklers" forming fringe of red-painted hide(?) pall covering pole-and-rod litter or bier in Tomb B-II. Pile of larger shells in center probably attached to some other offering. *Upper right:* In earliest two Mound A tombs skeletons were at length. This principal occupant of Tomb A-I was lavishly adorned with beads and other ornaments of jade. *Second left:* Offering of pottery in Tomb B-II. In crushed mass at right are six stuccoed and painted vessels, one of which is shown restored in Plate X, upper right. *Second right:* Skeleton of young sacrified victim and crushed vessels in Tomb B-II. *Third left:* Cleared floor of Tomb B-I, showing holes for corner-posts that supported log roof, and imprints apparently of feet of box-like coffin in which principal occupant was buried. *Third right:* Principal skeleton in Tomb A-IV (cf. Fig.8) seated in typical cross-legged position, torso slumped back and head fallen to left. Above head a double cup of alabaster; circular mass at waist a pyrite-mosaic "mirror" left uncleaned for later removal *en bloc* for laboratory treatment. On "mirror" a jade earplug (Plate XII, center right); below it shell spangles; protruding from under left side of "mirror" a jade-tipped copal rod (Plate XII, lower right), from under upper left of "mirror" a bunch of bone awls and sting-ray spines: *Lower left:* Tomb B-IV, in which objects were left *in situ* for photographing, a method later discontinued because of damage to bones and specimens. Principal occupant at center, skull fallen into lap. Over left foot a slate "mirror" face down, smaller one in front of skull. At upper center, skeleton of sacrificed servitor, also seated cross-legged. *Lower right:* Working on floor of Tomb A-I. In this case, presence of surrounding structure, which had to be preserved as control, necessitated excavation from above rather than from one side.



Kaminaljuyu, Guatemala. Tombs.
(See facing page for caption.)

Kaminaljuyu, Guatemala. "Mirror" and pottery.
(See facing page for caption.)

voted myself to work on the mound proper until Robert Wauchope could finish an excavation he was doing at Zacualpa in the western highlands and come in to help me. When he arrived, he and Mrs. Kidder and I tackled the two new tombs, finishing them just as the onset of the rainy season put a stop to that year's digging.

The second season saw Mound A completed. We found three more tombs there as well as a line of three directly in front of Mound B. The third year was put in on Mound B. It proved to be much like A. There were three inner structures of adobe and two outer ones of clay and water-worn pumice lumps faced with the same hard mixture of lime and gravel. Parts of the inner one of the latter pair were in fine shape, providing us with much useful information as to the original appearance of this latest and finest type of building. Underneath the mound were additional tombs.

Of the twelve tombs, all but a single minor one at B were located on the central axis of the mounds. The putting in of each evidently coincided with the dismantling of a structure and the erection over it of a new and bigger building. Such a correlation of burials with large-scale architectural activity suggests that the individuals interred must have been persons of much importance. This is further borne out by the size of their graves and the richness of their mortuary equipment.

The typical tomb was a rectangular, straight-sided pit three to over four meters long by slightly less wide, and often three to four meters deep. In the case of the two earliest at Mound A, the bodies had been at length (Pl. IX, *upper right*) and later burials had disturbed earlier ones. But all the ten others had been used only once and funerary practise had followed a remarkably uniform pattern. The principal occupant of the tomb had been placed in the middle of the floor seated cross-legged, facing south, hands in lap (Fig. 8). He—for all were adult males—had been coffined in a capacious container, apparently a wooden box (Pl. IX, *third left*). The corpse had been literally loaded with jewelry; jade necklaces, earplugs, pendants, shell ornaments, pyrite-mosaic "mirrors" —each of two tombs held no less than six of these beautiful and costly objects. Between the body and the south wall there was always a pile of fine pottery vessels, many of them brought from great distances. Other vessels, "mirrors," conch-shell trumpets, obsidian spearpoints, alabaster cups, lay here and there on the floor. Every tomb but one contained a small three-legged metate with its grinding stone (Pl. IX, *lower left*); in one there was a flask of liquid mercury. Such were the imperishable objects, but these had formed only a part of the lavish offerings. There had been bundles of textiles, reduced by decay to areas of soft, fluffy black rot; gourd or wooden trays and containers stuccoed and elaborately painted; also what seemed to have been masks or headdresses of carved wood, stuccoed and painted and embellished with discs of mica, the mouths perhaps set with jaguar jaws, of which we found a number of pairs. In two of the largest tombs could be made out the remains of pole-and-rod litters or biers, one of them inlaid with pyrite and hematite discs and covered by a pall fringed with hundreds of *Oliva* shell tinklers (Pl. IX, *upper left*).

These ancient tycoons had not been allowed to go unattended into the hereafter. In all but the one smallest tomb were the remains of two, or three, in one case four, other persons. As well as we could make out—all skeletons were in the last stages of decay—most of these were young females, probably slaves or concubines sacrificed at the time of their master's death. They

---

Kaminaljuyu, "Mirror" and Pottery:

*Upper left:* Carved back of slate "mirror" (diam. 5¼ inches) whose face bore mosaic of iron pyrite. At center two acolytes tending an altar from which rises smoke of burning incense, or perhaps a conventional tree. Human figures and intricate decoration surrounding them are typical of so called "Totonac" art, which reached its height at Tajin in Veracruz. The presence of this specimen in a tomb also containing Teotihuacan and Maya Old Empire pottery proves "Totonac" carving to have reached full development much earlier than had generally been supposed. *Upper right:* Stucco-coated vase and cover painted in pure Maya style. As this vessel, as well as that bearing an equally characteristically Teotihuacan design (Plate XI, upper center), are apparently of local manufacture, it would seem that Kaminaljuyu artists were conversant with the religious symbolism of both cultures. *Lower left:* Chimney-cover of incense burner, referred to in the field-notes as the "loud-speaker." *Center right:* Effigy of thin orange ware imported from Central Mexico. This vessel was broken and many pieces were lost when the tomb in which it was deposited was destroyed in ancient times. The fragments of the beautifully modeled face were, however, carefully saved and deposited in a later tomb. *Lower right:* Fish effigy, stuccoed and painted; one of the very few pieces found unbroken in the Kaminaljuyu bombs.

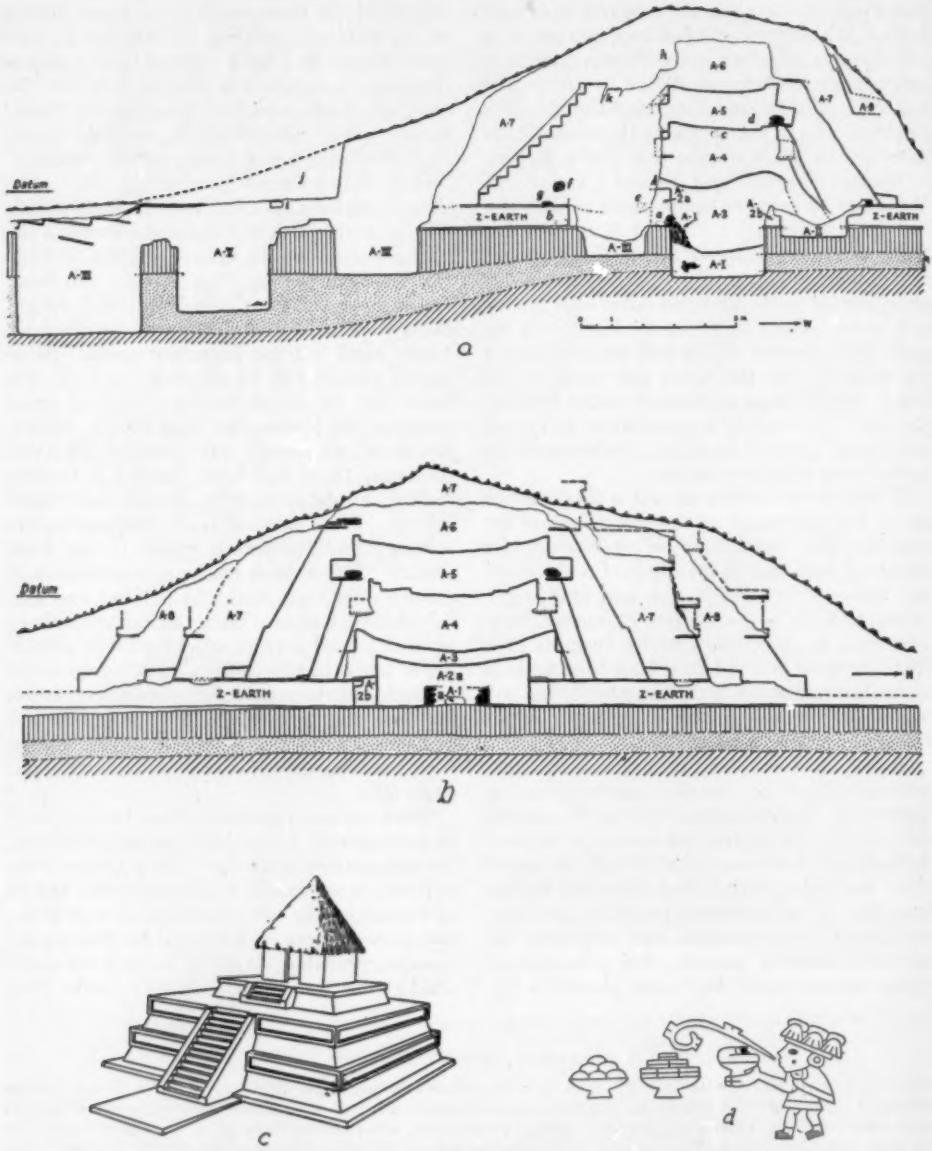



FIG. 7.—*a*, *b*, sections of Mound A to show superposition of buildings and relationship of buildings to tombs. In the east-west section, *a*, most of the lower-case letters indicate caches of ceremonial pottery, *f* marks the position of a jade boulder, *b*, that of the skeleton of an apparently sacrificed young woman. *c*, restoration by Tatiana Proskouriakoff of Structure A-7. The only doubtful element is the thatched temple roof, so restored because no stones suitable for a Maya-type vault were found and because of the many likenesses of this structure to Mexican temples believed to have been covered in this way. *d*, priest presenting offerings—an important painting in that it is executed in Monte Alban III style on stucco covering a vessel of early lowland Maya type, thus providing a chronological linkage of the two cultures.

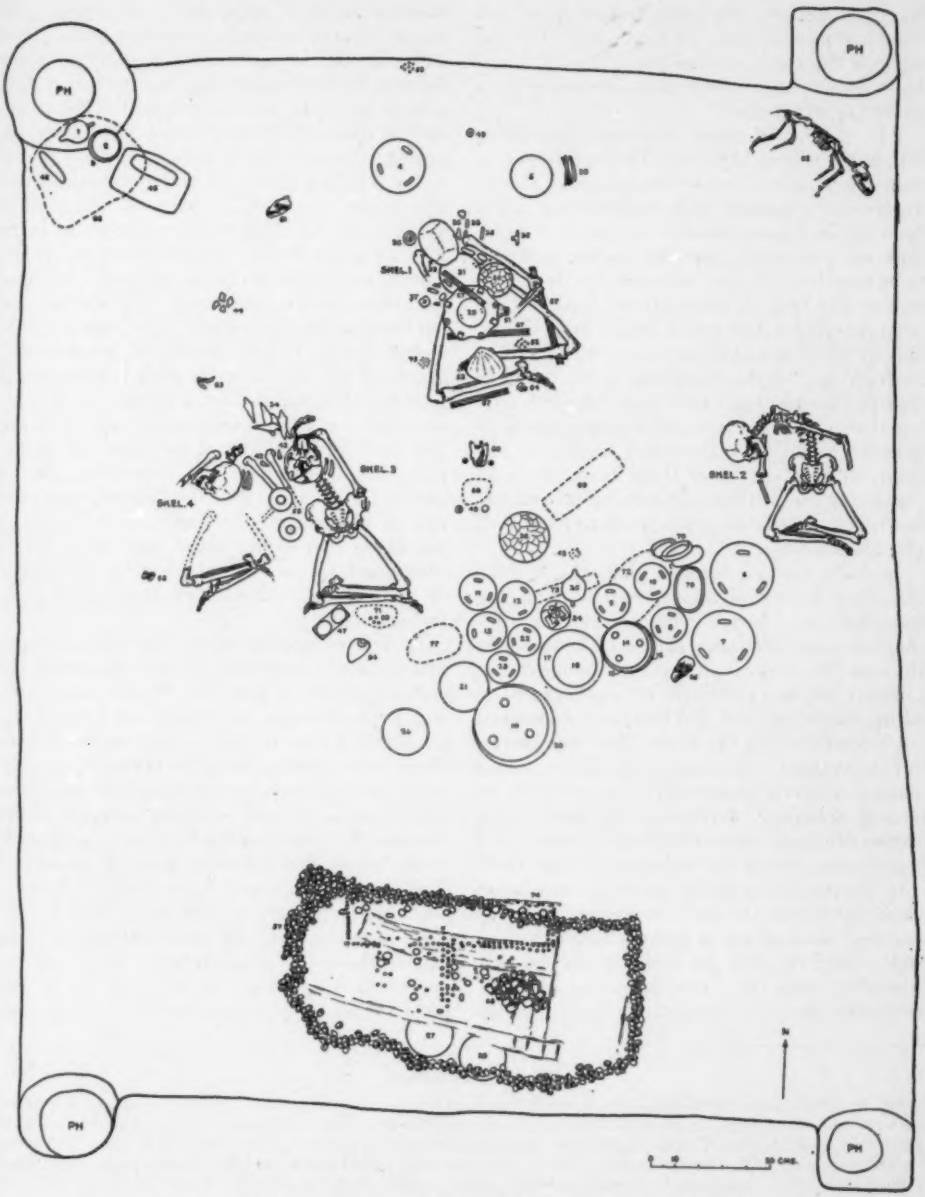



FIG. 8—Plan of Tomb A-IV, a tomb typical of the Esperanza phase.

had few or no ornaments and had been buried, also seated cross-legged, near the walls (Pl. IX, *second right, lower left*). In two of the pits the skulls of children and adults replaced the youthful skeletons; in another, there were both skeletons and an elaborately carved adult skull; in several were the skeletons of small dogs. The tombs had sometimes been filled at the time of

burial, sometimes left open. But in either case they had been roofed with heavy logs. The collapse of the roofs and the impacting of the fill had caused much downward displacement of overlying structures.

The clearing of those pits was a fascinating job, but a mortal hard one. They contained so many and such beautiful objects and almost everything crushable had suffered so cruelly from the enormous pressure of slumped buildings and platforms, that the utmost care had to be exercised. Most of the work was done with knives and fine brushes; from some of the stuccoed pieces the earth could be removed only by whiffing it gradually away with a rubber air-bulb as it dried. Kneeling or squatting in cramped positions day after day—no tomb took less than a week to clean and one required nearly two—would have been bad enough in the open; at the bottom of those holes, with all breeze cut off and the sun beating relentlessly down, it was at times pretty close to purgatory (Pl. IX, *lower right*).

In doing the first tomb, I made the mistake of coming down from above, thereby damaging some specimens before it became evident what they were and how they should be handled. In the next two, a small pit was sunk in one corner to locate the floor. Then the fill was removed to within 40 cm. or so of that level and we worked out laterally along the floor. That was better, but the vertical excavation of the fill prevented making accurate observations on remains of roofing, collapsed platforms, and debris from dismantled buildings, all of which could yield important evidence for the history of the tomb.

In the procedure finally adopted, excavation was entirely from the side. The size of the grave was first determined, a simple matter as the dark, relatively soft fill could easily be distinguished from the clean, hard clay through which the shaft had been sunk. Then a pit as wide as the shaft and sufficiently large to give ample room for shovelling was dug just outside the tomb on the north, that side being chosen because we had learned that mortuary furniture seldom lay close to the north wall. The pit was carried down to the level of the tomb floor, exposing the entire north face of the fill. A diagram recording its composition and stratification was made, after which the work was pushed southward, the floor of the excavation being kept at about 50 cm. above that of the tomb. The fill was taken out in meter-square columns. Columns, rather than tomb-wide slices, were cut because the latter would have permitted observation of only east-west faces, whereas diagrams of the two faces of each column could later be combined to form a series of both east-west and north-south sections at 1 m. intervals. The bulk of the fill out of the way, the 50-cm. layer left on the floor was taken out, also in blocks 1 m. square. This final operation was of course done entirely by hand. Work began at the north end of the tomb and was carried southward, specimens and bones being brought to light, noted, recorded on the ground-plan, and taken up.

At first we attempted to clear the skeletons and vessels in order to get photographs of the entire contents of a tomb (Pl. IX, *lower left*). But we soon found that materials left in situ prevented access to others, that some of them deteriorated badly during the several days they often had to lie open to sun and air, and that they were in danger of being stepped on or damaged by falls of earth from the drying walls of the tomb. Furthermore, decayed bones and shell, rotted "mirrors," and crushed pottery, particularly vessels coated with stucco, suffered severely from the brushing necessary to expose them for photography. Hence we removed each specimen as we came to it, the more fragile ones, as soon as their nature and

---

Kaminaljuyu Pottery:

*Upper left:* Incense burner with human figure seated cross-legged on cover, a rectangular drum between knees. The lower dish was found full of ashes; smoke escaped through mouth and holes in armpits. *Upper center:* Painting on stucco-coated cylindrical tripod (cf. Plate X, upper right) representing, according to Dr. Alfonso Caso, a butterfly goddess. This piece is without question a Teotihuacan product. *Below:* Two-part effigy; mold-made, headdress and earplugs added later (if this individual is a fisherman, he is making a commendably modest claim). *Upper right:* Tripod which in shape and method of decoration (polished black surface cut away after firing and excised parts filled with brilliant red cinnabar) is in the Teotihuacan manner, but of which the design is in lowland Maya style. *Center left:* Polychrome basal flange bowls characteristic of Peten-British Honduras area during early part of Maya Old Empire. *Lower left:* Whistling jar; when half filled with water and tipped back and forth, a whistle in back of head emits a shrill note as air is expelled. *Lower right:* Two-part effigy and close-up of head to show marks of textile, impressed while clay still soft, on all unclothed parts of figure; a unique piece.

Kaminaljuyu, Guatemala. Pottery.
(See facing page for caption.)

Kaminaljuyu, Guatemala. Jades.
(See facing page for caption.)

size were ascertained, being undercut and taken out, still encased in earth, for final treatment in the laboratory. In such cases, exposed parts of objects were covered with several layers of moistened tissue paper and the whole lump was solidified with a heavy coat of paraffin.

We were, of course, very fortunate in being so handy to our work-rooms in the city, where the lumps could be dissected at leisure; and even more fortunate in that Dr. Wissler of the American Museum of Natural History and Mr. Scott of the Peabody Museum of Harvard allowed Mr. Paul Richard and Mrs. Harriet S. Cosgrove of their respective staffs to come to Guatemala to do this delicate work and to mend the specimens. Their efforts were effectively supplemented by Sr. Cesar Tejeda, who restored much of the pottery and Sr. Antonio Tejeda, who drew or painted the vessels and other objects.

The most difficult material to handle was the stuccoed pottery, of which some tombs contained a great deal. The vessels were not only crushed (Pl. IX, *second left*), but the paper-thin stucco, embellished with most beautiful paintings, had in many cases peeled off in hundreds of small flakes that tended to curl on drying. They seldom corresponded in size or shape to the fragments of the vessel, often three or four vessels had been mashed together. It was double-barrelled super-jigsaw. The pyrite-incrusted stone plaques, usually, but I think probably incorrectly, called mirrors, were almost equally hard. The pyrite mosaic which covered one side of each had completely disintegrated, but the other side had often borne painted stucco and in one case was elaborately carved (Pl. X, *upper left*). In trying to get it out of the earth, I completely ruined the first one I came across, not realizing that it was riddled with tiny cracks. After that all "mirrors" were removed *en bloc* and cleaned in the laboratory.

About the only things that gave us no trouble were the jades (Pl. XII). The quantities of this, to the ancient Mesoamericans most precious of all substances, indicated the importance of the men whose corpses it bedecked. The examples in the Kaminaljuyu tombs were not as beautifully carved as were those of later periods, but the stone was of superlative quality, some bright emerald, some a clear very dark shade. I know of no greater thrill than to have one's carefully probing knife-point skid on a jade's polished surface—you can't mistake that for the feel of anything else—and, shifting to the brush, see the first green gleam in the brown earth.

The tomb jades were beads, pendants, earplugs, mosaics, the thin plate-like elements of the latter unfortunately detached from their backings. In addition to these ornaments, there were, in two of the tombs, collections of jade-worker's materials: sawed pebbles, drill-cores, beads in various stages of manufacture, a "blank" from which an earplug was to have been fashioned. And buried as a dedicatory cache in the center of the adobe stairway of Structure A-6 was a waterworn boulder 40 cm. in diameter into which a few exploratory cuts had been made. This, I believe, is the largest piece of American jade ever found.

---

During such an excavation as that of the Kaminaljuyu mounds and tombs one is so hard put to keep up with the delicate hand-work that must be done by the staff and with the routine mapping and photographing and note-taking, one is so preoccupied with the immediate problems of what next to do and how best to go at it that there is little time to think of the wider implications of what one is finding. We knew from the first that we were getting useful data. As a matter of fact, any information from the

---

Kaminaljuyu Jades:

Great quantities of jade ornaments were found in the tombs. Although the carving is cruder than that of later times, the stone is of magnificent quality. *Upper left:* Monkey; fish (?); human figure; note extreme conventionalization of latter, eye and earplug being shown by circles made with hollow drill; nose, mouth, chin, hands, and bent leg by simple saw-marks. *Upper right:* Earplug with "crumb-mosaic" of small polished pieces in aperture. *Center right:* Earplug with throat-disc bearing human face in profile. *Lower left:* Longitudinally perforated bead (length 6¾ inches); thought to be an imported object, as the carving of the human figure with serpent headdress is not in the highly conventional local style, which was expressed by means of sawed lines and circles and half-circles made with hollow drill. Plain specimen at upper right of this photo is a superlatively beautiful piece of clear, light green stone. *Lower right:* Two small jade ornaments (that at right disassembled to show throat-disc) mounted on stems of vegetable gum, probably copal. These objects may have protruded from jade earplugs (cf. earplug of human figure on long bead).

Guatemala highlands was bound to be valuable because that region is archaeologically next to unknown. But only when the specimens had been studied and the field-records reviewed could we see our results in proper perspective.

We found that we had some data—mostly on ceramics and figurines—regarding the early Miraflores phase first brought to light by Gamio on the finca of that name. The Miraflores remains are analogous to, and probably roughly contemporaneous with, those of the so-called "Archaic" cultures of Mexico, of the early Mamom and Chicanel phases of the lowland Maya country, the pre-classic phases of Honduras and of Salvador. We also found evidence that the site had still been occupied in late prehistoric times. However, the bulk of the material derived from the two mounds and their tombs is of an intermediate phase which we have called Esperanza.

The Esperanzans without much question spoke a Maya tongue but their culture, although highly ceremonialized, differed from that of the classic lowland Maya as exemplified by Tikal, Uaxactun, Palenque, and Copan, in that corbelled vaults were not built, nor were dated stelae erected; and the run of the pottery was of types not found at the classic Maya cities. I say the run of the pottery because the tombs also contained certain typical Maya vessels (Pl. XI, *center left*), evidently trade-pieces, which show that the Esperanza phase was contemporaneous with the early part of the Old Empire and therefore is datable—if the Goodman-Martinez-Thompson correlation of Maya and Christian chronology is correct—at about the sixth century A.D. Many of the vessels had been imported from Teotihuacan or some other center of that then flourishing Mexican culture (Pl. XI, *upper center*); and the architecture of the two latest buildings in each of our mounds corresponds, detail for detail, so closely to that of the great period at Teotihuacan that it seems possible that an invasion from the north may actually have put Mexican priest-rulers into the saddle at Kaminaljuyu. Other pieces of pottery show influence from the great Oaxacan metropolis at Monte Alban during its third period; others are from Salvador; still others—of a beautiful creamy ware—are from some as yet unidentified center. Finally, the last tomb we excavated yielded a carved "mirror" in the unmistakable Totonac style that reached its height at Tajin in Veracruz (Pl. X, *upper left*).

Thus the Kaminaljuyu finds make it clear that during Esperanza times an active exchange of commodities was going on all over Mesoamerica. The above-mentioned specimens are very valuable archaeologically, for they serve to tie together in time several of the most important Mesoamerican cultures. They also suggest that there was an almost simultaneous burst of cultural activity throughout the area. Hence neither the Maya nor the people of Teotihuacan—both of whom have had their advocates—can be considered to have been uniquely outstanding as sparkplugs, so to speak, of the classic Mesoamerican development. This throws one back, in the attempt to reconstruct the growth of higher Mesoamerican culture, into such earlier phases as Miraflores, Mamom and Chicanel of Peten, the Mexican Archaic, etc., which, although certainly less advanced than the classic cultures, are by no means primitive and, as we come to know them better, are proving to have attained stronger local specialization and greater ceremonial development than was once believed. Such being the case, one has to look still further into the past for ultimate beginnings. And there one faces a blank wall, for nothing that can be recognized as ancestral has yet come to light. That, at present, is the great enigma of Mesoamerican archaeology.

I have wandered a long way from Kaminaljuyu and from the Esperanza phase, the only period in the life of that site with which we are even reasonably familiar. We know little enough. Nevertheless, the two mounds, so often enlarged at such great cost of labor, and the dozen tombs so richly stocked with costly offerings, served to indicate an economy sufficiently thriving to free many people for occupations above and beyond the mere getting of a living. Government was presumably theocratic and, to judge from the extent of public works, highly autocratic. It doubtless centered at Kaminaljuyu, which was evidently the administrative center for a large region over which were scattered the farming villages of the commoners. From these, people came to the city for religious festivals, for the market days that are still so great a feature of Guatemalan life, and, in seasons when their crops did not demand attention, for work in the constantly growing assemblage of temple-crowned pyramids. Trade was brisk. Seashells, tropical fruits, and cotton came from the nearby Pacific coast plain; bril-

liant quetzal feathers from the mountains. For export the Esperanzans had abundant supplies of obsidian, an invaluable stone for cutting-tools much in demand in the thickly populated non-volcanic lowlands of the north. I also suspect that they had some nearby source of jade. Whether the pottery from the Maya country and that from even more distant regions in Mexico was brought by organized trading parties or was passed from tribe to tribe, is unknown. Long-range commerce, among the American Indians, seems to have gone on more or less uninterruptedly in spite of wars. Conditions in highland Guatemala at this period seem, however, to have been relatively peaceful, for Kaminaljuyu and apparently all other large centers of Esperanza times occupied open sites, quite unlike the barranca-guarded strongholds which existed in later centuries.

The rulers, as I have said, may have been Mexicans. Whoever they were they topped a governmental organization heavily weighted on the ceremonial side. How many of the more than two hundred mounds at Kaminaljuyu are of the Esperanza phase is not known; I think a large proportion. The religious cults of that period, to judge from the paintings on the stuccoed vessels from the tombs, contained both Maya and Teotihuacan elements. In one respect Kaminaljuyu is unique. It contains more ball-courts than any site so far surveyed, at least thirteen, and there are many more at other mound groups in the valley. It must have been an even better ball town than Brooklyn.

The ball-game was doubtless to a large extent a ritualistic observance. The other mounds were, of course, purely religious structures. The tombs we found were without much question those of theocrats. Almost all our information so far—and this is true throughout Mesoamerica—has to do with the ceremonial setup. About this we have learned a great deal. But as to the people who labored under so heavy a weight of service to their rulers and their rulers' gods, we know very little. Some day we shall get around to excavating the village sites and the little unspectacular house mounds. These will give us an insight into the domestic arrangements of the commoners: their houses, their implements, their methods of cooking. Their graves may teach us, perhaps, something of humble folk-cults. Such work will also be of the greatest archaeological significance, for the small amount of digging we did outside the mounds showed that temple furniture and the mortuary equipment of the overlords was in a class by itself. It no more represented the general contemporary culture of Esperanza Kaminaljuyu than the contents of a Park Avenue drawing room does that of the United States. Only when we have much fuller knowledge of everyday household utensils, corn-grinders, common stone and bone tools, objects which were not subject to shifting whims of fashion or influenced by new and perhaps quickly and widely spreading cults, shall we be able to discern the basic relations of cultures.

This is but one of the manifold tasks that face Americanists in Mexico and Central America, in Eastern United States, in the Southwest, in the Andes. But they are well worth the doing, for in these continents we have a unique opportunity to study the rise and the spread of what, in spite of the fact that it was overwhelmed by the white man's coming, was one of the world's great civilizations. If we do our work as we should, we may come to understand the meaning of that civilization's strange pulsations, we may learn what stimulated its successes and what brought about its failures. We may even glean some knowledge—and the Lord knows we need it—of the mysterious forces that in all ages and in all parts of the globe seem inevitably to have caused each hopefully flowing tide of human progress to halt and finally to ebb.

Carnegie Institution of Washington
July, 1945

# PERIODS OF PREHISTORIC ART IN THE ALEUTIAN ISLANDS

GEORGE I. QUIMBY, JR.

THE INTENT of this paper is to present the hypothesis that there are at least two discernible periods of prehistoric Aleut art; one early, the other late.[1] Most designs of the early period somewhat resemble those of the Dorset Eskimo in the East. The art of the late period is suggestive of Punuk Eskimo in northern Alaska.

The formulation of these two periods is based upon an examination of decorated artifacts from the "D" site on the southwestern coast of Amaknak Island (Dutch Harbor, Alaska). These artifacts are part of a large collection donated to the Chicago Natural History Museum by Lt. Alvin R. Cahn, U.S.N.R.

The "D" site, missed by Jochelson, is a large midden about 24 feet thick, 125 feet wide, and 300 feet long. A roadbed cut through the middle of the site is about sixteen feet beneath the top of the midden and about eight feet above the bottom. Lt. Cahn salvaged and excavated specimens from the upper two-thirds of the midden above the road and has dug pits from the level of the roadbed to the bottom of the midden. Thus, he established two lots of materials: those from the bottom one-third and those from the upper two-thirds of the midden. Consequently, his collection from the "D" site is suitable for stratigraphic analysis, a rare phenomenon in Aleut archaeology.

Artifacts from the lower third of the site are here considered representative of the early period, whereas those from the upper two thirds of the side are considered indicative of the late period. The construction of these periods would, of course, be considerably refined if the midden had been excavated in terms of ideal archaeological methods, an impossibility under present circumstances.

Of hundreds, if not thousands, of specimens only a few are decorated, a situation experienced by all previous investigators in the Aleutian Islands. The collection used in this paper consists of thirty-one decorated objects, twenty-one of which came from the bottom portion of the site. It is interesting to note that although the upper portion of the site was more extensively excavated than the bottom portion, fewer decorated objects were found. It seems, therefore, that decorative art was comparatively more popular in the early period than in the late period.

All but one of the designs representative of the early period are engraved upon harpoon or lance heads. These are made of bone and have elaborated systems of barbs and usually a bed at the end into which was lashed the butt of a chipped stone point.

With one exception the designs of the early period are linear, simple, and rather deeply cut. The composition is longitudinal and gives the impression of symmetry or balanced asymmetry. Unlike Thule art, for instance, there is no attempt to confine the decoration to the border of an object, nor is there the impression of formality and precision which is characteristic of some Thule design.

The elements of early period Aleut design are straight lines, paired lines, transverse lines in groups, short isolated lines, spurred lines, X's, and zigzags (Pl. XIII, *7–19*).

There is one example of paired lines with oblique spurs on one side (Pl. XIII, *18*), but this may not be a true spur because not all of the short lines actually connect with the long line.

Zigzag lines are illustrated in Plate XIII, *10*, *15*, and the use of the X element is shown in Plate XIII, *9*, *12*, *14*, *17*, *18*. Various combinations of transverse and diagonal lines are also illustrated (Pl. XIII, *7–19*).

The previously noted exception to the linear art of the early period is a border design on a cylindrical labret or (perhaps) earspool of ivory. The design consists of a row of small dots around the perimeter. Just inside this row is a similar row of dots enclosed by engraved lines.

Aleut art of the late period is quite different from that of the early period. Elements of design consist of the drilled dot, the diamond with a dot in the center, the compass-engraved dot and circle or dot and concentric circles, and transverse lines in groups of three.

An example of the drilled dot motif (Pl. XIII, *1*) occurs as a single row of dots of the back of

[1] Henry B. Collins, Jr., has been of considerable assistance in the preparation of this paper.

an animal (sea lion?) effigy made of ivory. Dots which appear to be gouged rather than drilled occur as a single row bordered by engraved lines on an ivory pendant (Pl. XIII, *5*).

A diamond design with a drilled dot in the center appears on each side of a small animal effigy made from a sea lion(?) tooth (Pl. XIII, *2*). There is a much more elaborate diamond design on a fragment of a barbed harpoon or lance head (Pl. XIII, *3*). The diamonds are bordered by engraved lines and there are drilled dots in the centers of the diamonds.

A barbed harpoon or lance head of bone with a slot instead of a bed for the blade is decorated with groups of transverse lines (Pl. XIII, *6*).

The compass-drawn-circle-and-dot motif is part of the border design on each side of a toggle harpoon head of bone (Pl. XIII, *4*). This motif is used in conjunction with the compass-drawn dot and concentric circles, engraved parallel lines enclosing rows of pricked dots, and spurs.

By and large, the art of the late period is distinct from that of the early period at the "D" site, and it is difficult to see any real development from early to late forms, although there is an early style motif on a late type harpoon head (Pl. XIII, *6*). This example, plus three decorated harpoon heads of the early style also found in the upper part of the site, suggests that the early style persisted into the late period. Possibly there is a progressive development from the X element (Pl. XIII, *9*, *12*, *14*, *17*, *18*) to the diamond formed by two X's (Pl. XIII, *2*) to the nicely executed diamond (Pl. XIII, *3*). Such a hypothesis is pleasing but not necessarily probable.

The circle and dot design on the toggle harpoon head (Pl. XIII, *4*) is obviously suggestive of fully developed Punuk and modern Eskimo art.[2] The freehand dot and circle does not occur on specimens from the "D" site, although it is present in collections from other sites on Amaknak Island. This motif also is illustrated by Jochelson.[3]

Another Punuk and post-Punuk design element is the drilled dot, which also is at home in Aleut art of the late period. Thus the evidence, such as it is, suggests that Aleut design of the late period is partly analogous to Punuk and modern Alaskan Eskimo art. This analogy already has been pointed out by de Laguna[4] and Collins.[5]

Of much more interest is the Aleut linear art of the early period. When compared to other Eskimo art (Old Bering Sea, Ipiutak, etc.) it seems most suggestive of Dorset, although there also may be present faint impressions of Old Bering Sea style 1. In this discussion the Dorset resemblance will be pressed.

Like that of early period Aleut, Dorset art is linear, the composition is frequently longitudinal, and there is a tendency to avoid border designs. Also like early period Aleut, the Dorset culture has not produced very many decorated artifacts; thus comparative studies are limited and their conclusions subject to doubts.

Examining first the Dorset artifacts excavated by Mathiassen,[6] we find some points of similarity. For instance, the design illustrated in Plate 62, *7* of his Part I shares with early Aleut art the following attributes: It is linear, longitudinal; it follows the mid-line of the object; it is symmetrical; and it embodies the X element. The use of spurs on each side of the line is not found in early Aleut designs, but the Aleut use of short detached lines seems to be analogous to the Dorset use of spurs. Similarly, except for the prominence of oblique spurs on each side of a line, the design illustrated in his Plate 62, *11*, is suggestive of early Aleut patterns. The use of short, detached, parallel lines in the designs on other objects shown in Plate 62 is also suggestive of early Aleut.

Mathiassen illustrates a decorated Dorset artifact.[7] In addition to similarities already noted, the design on this quiver handle produces the zigzag element. Its form and execution are very close to those on several early Aleut artifacts.

Rowley's preliminary report on Dorset illustrates two decorated specimens which bore designs similar to those of early Aleut.[8] In his Figure 2*a*, there is a line with horizontal spurs on each side of it. Only one of these spurs actually connects with the long line; thus this motif closely resembles the Aleut use of short detached lines to produce pseudo-spurs (e.g., my Pl. XIII, *15*). In his Figure 2*j* the design is

[2] Cf. de Laguna, 1933, p. 80.
[3] 1925, Pl. 23, *3*.
[4] 1934, p. 218.
[5] 1937, p. 291; 1940, p. 575.
[6] Mathiassen, 1927. At the time of his report, Mathiassen did not accept Jenness' concept of Dorset.
[7] Mathiassen, 1927, Part II, Fig. 10, *1*.
[8] Rowley, 1940, Fig. 2.

similar to some in early Aleut except for the oblique spurs on each side of the line. The row of drilled(?) dots on the object in his Figure 2*e* is comparable to similar designs representative of late period Aleut, although the dot element occurs also in early Aleut.

The engraved designs illustrated by Rowley in Figure 3, with the possible exception of Figure 3*b*, are not especially reminiscent of early Aleut art, although some of the elements are shared. And, as Rowley observed, the designs illustrated in his Figure 3 are unique in Dorset art.

Jenness[9] shows some examples of Dorset art. One of these, Figure 9*f*, has a design typical of early Aleut. The design illustrated in his Figure 9*c*, is not greatly dissimilar to that shown in my Plate XIII, *13*. The others, however, are only vaguely suggestive of early Aleut.

The Dorset designs on artifacts from northeastern Baffin land are also somewhat similar to those of the early period Aleut.[10]

Collins[11] has noted the parallel between the Dorset custom of carving heads on the sides of objects and the Aleut trait of sometimes carving a head on the side of a bone harpoon or lance head.

Although there are no harpoon or lance heads with human faces carved on their sides in the collection from the "D" site, four such heads are illustrated by Jochelson.[12] It is perhaps significant that the type of harpoon shown in his Figure 83*A*, *B* is found only in the early period level of the "D" site.

De Laguna's excavations at Cook Inlet produced several decorated artifacts with designs similar to those of early Aleut.[13] These designs are found in all three periods of Kachemak Bay culture, especially in the second and third periods. Probably they are persistent types. For instance, the transverse lines in groups of three occur in both the early and late periods on Amaknak Island. In de Laguna's third period and late period Aleut this motif is associated with Punuk-like designs. Thus there seems to be a relationship between the art of Cook Inlet and that of Amaknak Island in the Aleutians. And as de Laguna suggested,[14] there is a pre-Punuk stage of art in the Aleutians as well as elsewhere in southwestern Alaska.

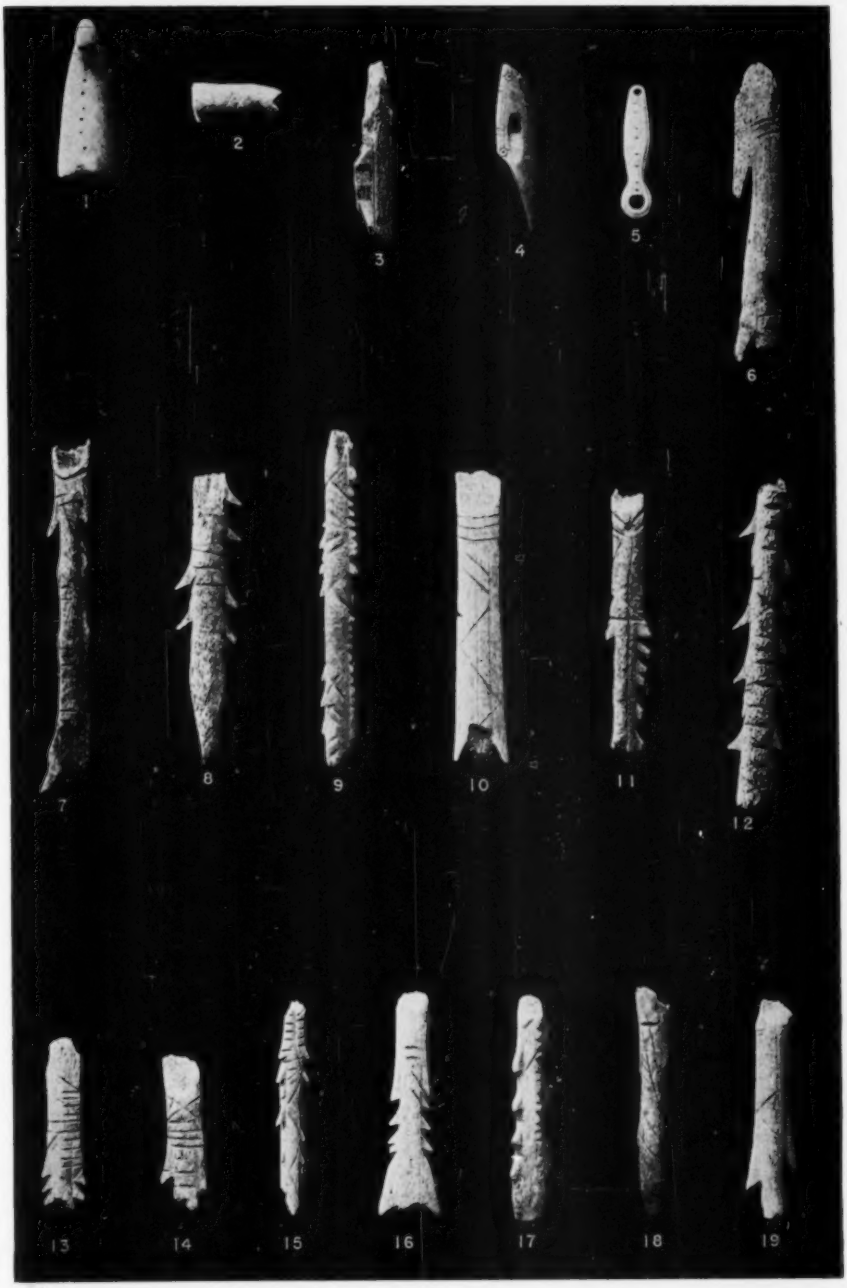
According to de Laguna, the pre-Punuk style of art in southwestern Alaska resembles Dorset more closely than Old Bering Sea (style 1) resembles Dorset art. She says, "However, the unpublished material from Prince William Sound, which is much fuller than that from Kachemak Bay, suggests that a closer comparison might be made between it and Dorset art [than can be made between Old Bering Sea and Dorset]. Unfortunately we found little in Kachemak Bay 1 that was decorated, but I should imagine that the art of that period included those simple elements of Old Bering Sea style 1 and Dorset that are found in Prince William Sound and Kachemak Bay III."[15]

Collins has long held the view that there was some relation between Dorset art and the art forms of Old Bering Sea Style 1. Writing of this, de Laguna says, "Collins further points out important resemblances between Dorset art and Old Bering Sea style 1 in the use of straight lines, long oblique spurs, short detached lines, and the carving of mammal heads with ears in relief (Collins 1937*a*, p. 289). To this we can also add: lines with short vertical spurs, crosses and X's, angular dots in a line. He has also noted the presence in southwestern Alaska, south of the Alaska Peninsula, of a number of elements belonging to Old Bering Sea style 1 (Collins, 1937*a*, p. 290)."[16]

Comparison of Aleut and Dorset designs also seems to indicate a similarity between them. And the stratigraphy, such as it is, seems to indicate that the Dorset-like designs in Aleut are early. Assuming both propositions to be true, what interpretation can be made from this evidence? It is entirely possible that the resemblance is accidental. Both early Aleut and Dorset designs are extremely simple and poorly executed. Judged by our standards, they are lower in the scale of artistic craftsmanship than the designs of any other Eskimo culture, although aesthetically they might be better. With such simplicity and poor execution, it seems quite possible that even two groups of Eskimos could independently develop somewhat similar art styles.

On the other hand, it seems reasonable to

[9] Jenness, 1925, Fig. 9.
[10] Lethbridge, 1939, Figs. 17, *4*, 19, *5*.
[11] 1937, p. 289; 1940, p. 571.
[12] 1925, Figs. 81*A*, *B*, 82*A*, *B*, 83*A*, *B*.
[13] De Laguna, 1934, p. 209.
[14] *Ibid.*, p. 218.
[15] De Laguna, N. D., p. 375 of Chapter IX.
[16] *Loc. cit.*




Decorated artifacts from the "D" site, Amaknak Island, Alaska. *1-6*, motifs and designs representative of late period Aleut art; *7-19*, motifs and designs indicative of early period Aleut art.

UNIV. OF MICH.

believe that there is some kind of cultural relationship between early Aleut and Dorset. This hypothesis is suggested by the evidence of design similarities, not only between early Aleut and Dorset, but also between Prince William Sound-Kachemak Bay and Dorset and Old Bering Sea style 1 and Dorset, as well as the probability (proof in some instances) that all of these cultures are old.

Jenness already has suggested that the Dorset culture "stemmed from the same parent trunk as the ancient cultures of western Alaska."[17] His suggestion is based on a consideration of similar traits found among the Dorset, Old Bering Sea, Kachemak Bay, and Aleut cultures.[18] Collins reiterates and supports the hypothesis of a western origin for the Dorset culture.[19] Dr. Frederica de Laguna is another who believes that the Dorset culture was derived from the ancient north Pacific cultural continuum. With her permission obtained through the kindness of Henry Collins, I quote from an unpublished monograph.

> We have as yet no clue to the origin of the Dorset culture. Some of the types characteristic of it, especially its art and its stone work, suggest links with Old Bering Sea 1, but a greater number, extraordinarily enough, point towards Kachemak Bay 1 and the North Pacific area in general. The latter traits, which not only link the Dorset with the North Pacific but distinguish it from the Canadian Thule culture, include: oval stone lamp, open socket harpoon head with medial spur . . . double foreshaft leister harpoon (inferred for the Dorset), prominence of multi-pronged leister rather than bird-dart with sideprongs, detachable barbed heads with tang (loaned to the Thule culture?), thin grooved or notched adz blade, . . . chipped triangular or leaf-shaped blade with side notches, chipped asymmetric knife blade with side notches, and certain simple design elements. A number of these traits also belong to prehistoric Ainu culture. A discussion of some of them will appear in Chapter IX. A few other Dorset elements are shared with both the Old Bering Sea and Pacific Eskimo cultures, and some with the Old Bering Sea alone. However, one has the feeling that much of the Dorset culture must have been derived in some way from the ancient North Pacific cultural continuum, even though it is impossible now to suggest how this happened.[20]

In my opinion, the data presented in this paper are additional links in the chain of evidence which some day will unmistakably tie Dorset to the ancient Eskimo culture of western Alaska. And, as de Laguna has implied, it is not impossible that Dorset's closest connections will lie in the southern part of western Alaska rather than in the north.

[17] Jenness, 1940, p. 9.
[18] *Ibid.*, p. 8.
[19] Collins, 1940.
[20] De Laguna, N. D., p. 28 of Chapter I.

## BIBLIOGRAPHY


COLLINS, HENRY B., JR.
1937. "Archeology of St. Lawrence Island, Alaska." Smithsonian Miscellaneous Collections, Vol. 96, No. 1.
1940. "Outline of Eskimo Prehistory." Smithsonian Miscellaneous Collections, Vol. 100, pp. 533–592.

DE LAGUNA, FREDERICA
1933. "A Comparison of Eskimo and Paleolithic Art." Part II, *American Journal of Archaeology*, Vol. 37, No. 1, pp. 77–107.
1934. *The Archaeology of Cook Inlet, Alaska.* University of Pennsylvania Press.
N.D. "The Prehistory of Northern North America as seen from the Yukon." MS. Pertinent quotations supplied by Henry B. Collins, Jr., with permission of the author.

JENNESS, DIAMOND
1925. "A New Eskimo Culture in Hudson Bay." *Geographical Review*, Vol. 15, No. 3, pp. 428–437.
1940. "Prehistoric Culture Waves from Asia to America." *Journal of the Washington Academy of Science*, Vol. 30, No. 1, pp. 1–15.

JOCHELSON, WALDEMAR
1925. *Archaeological Investigations in the Aleutian Islands.* Carnegie Institution, Washington.

LEECHMAN, DOUGLAS
1943. "Two New Cape Dorset Sites." AMERICAN ANTIQUITY, Vol. 8, No. 4, pp. 363–375.

LETHBRIDGE, T. C.
1939. "Archaeological Data from the Canadian Arctic." *Journal of the Royal Anthropological Institute of Great Britain and Ireland*, Vol. 69, pp. 187–233.

MATHIASSEN, THERKEL
1927. *Archaeology of the Central Eskimos.* Report of the 5th Thule Expedition, 1921–24, Vol. 4. Copenhagen.

ROWLEY, GRAHAM
1940. "The Dorset Culture of the Eastern Arctic." *American Anthropologist*, Vol. 42, pp. 490–499.

WINTEMBERG, W. J.
1940. "Eskimo Sites of the Dorset Culture in Newfoundland." AMERICAN ANTIQUITY, Vol. 5, pp. 83–102; 309–333.

WEYER, EDWARD M., JR.
1930. *Archaeological Material from the Village Site at Hot Springs, Port Moller, Alaska.* Anthropological Papers of the American Museum of Natural History, Vol. 4.


Chicago Natural History Museum
September, 1944

# DESCUBRIMIENTOS ARQUEOLOGICOS EN TIERRAS DE LOS CHIBCHAS

GREGORIO HERNANDEZ DE ALBA

ARCHAEOLOGICAL DISCOVERIES IN THE CHIBCHA COUNTRY

The author discusses objects found on the bed of the Laguna de Fúquene, situated on the boundary between the departments of Cundinamarca and Boyacá, on the Andean plateau in Colombia. As a result of a drought in 1941, and of the opening of canals at the outlets, the lake dropped to new low levels, exposing potsherds and stone tools. Through cracks in the dried mud, rounded stones were seen; they proved to be statuettes. One was made of wood. The author believes that they had been thrown into the lake in order to bring better catches of fish.

The debris of occupation was found on the lake bed, which consists principally of decayed vegetal matter. It is the author's contention that this is evidence that the people who are responsible for the debris lived in dwellings built over the water, although, no trace of piles could be found because of the nature of the lake bed.

Stone weights are believed to indicate the use of the net for fishing.

By means of archaeology, new traits have been added to those recorded for the Muiska Indians. These new traits include lake dwellings, the use of nets for fishing, stone sculpture, and the sacrifice of statuettes in the lake.

Typologically the objects recovered—pottery, metates, grinding stones, axes, stone chisels, net weights, and statuettes—are similar to comparable forms from Chibcha territory.

LOS PRIMEROS historiadores de la conquista de América que tuvieron conocimiento personal de los pueblos indígenas que desaparecieron rápidamente, exterminados sus habitantes o reemplazadas sus culturas por usos europeos, nos dejaron un incompleto relato etnológico de tales pueblos cuyos verdaderos fenómenos en lo religioso, social, industrial, técnico o artístico solo pueden ser comprobados ahora por el descubrimiento arqueológico. Tal es el caso de los Chibchas Muiskas que habitaron las altiplanicies andinas de Bogotá y de Tunja en Colombia. De los dos autores mas autorizados que relataron los usos y costumbres de tales indígenas—Fray Pedro Simón y Don Juan de Castellanos[1]—mucho hay en sus obras de fantasía y de opinión ultra católica. Los demás cronistas como Fray Pedro de Aguado,[2] Lucas Fernández Piedrahita,[3] y Gonzalo Fernández de Oviedo[4] parecen repetir a los primeros.

La arqueología, empero, ha venido complementando por los descubrimientos efectuados en los últimos años el conocimiento sobre la cultura del pueblo Muiska, de tal manera que parece ser un sistema muy útil para la arqueología el tomar referencias de lugares habitados por indígenas y de hechos culturales en ellos sucedidos, conforme los relatan los historiadores de la conquista, y comprobarlos por medio de excavaciones que muy bien pueden agregar detalles desconocidos, materializar leyendas o explicar mitos, como al autor mismo le had sucedido en dos casos: en la confrontación de la existencia de un templo hecho al Dios Sol por el Cacique mítico Goranchacha en Tunja,[5] y en la investigación arqueológica de que se ocupa este estudio, efectuada en las orillas de la laguna de Fúquene (Pl. XIV, *a*).

[1] Fray Pedro Simón, *Noticias Historiales de Las Conquistas de Tierra Firme en las Indias Occidentales*, Segunda Parte, Bogotá, Casa Editorial de Medardo Rivas, 1891.

Juana de Castellanos, *Historia del Nuevo Reino de Granada*, Madrid, 1886.

[2] Fray Pedro de Aguado, *Recopilación Historial*, Biblioteca de Historia Nacional, Volúmen V, Bogotá, Imprenta Nacional, 1906.

[3] Doctor D. Lúcas Fernández Piedrahita, *Historia General de las Conquistas del Nuevo Reino de Granada*, Bogotá, Imprenta de Medardo Rivas, 1881.

[4] Capitán Gonzalo Fernández de Oviedo y Valdés, *Historia General y Natural de las Indias Islas y Tierra-Firme del mar Océano*, Madrid, 1851 a 1855.

[5] Gregorio Hernández de Alba, "Arqueología. El Templo del Sol de Goranchacha," *Revista de las Indias*, Ministerio de Educación Nacional, Primera Serie, Volúmen II, Número 7, Bogotá, Octubre 1937.

Lago de Fúquene, Colombia. *a*, lugar de las excavaciones en tiempo de sequía; *b*, zona desacada por el verano; *c*, zona desacada mostrando tiestos y piedras; *d*, restos de una casa lacustre en el fondo del lago; *e*, pesas de piedra para red; *f*, modo de encontrar cinco estatuillas; *g*, tipos de estatuillas, 5, de madera. (El escala superior es para numeros 1–5, la inferior, para 6–11.)

UNIV. OF MICH.

La laguna de Fúquene está situada en los límites entre los Departamentos de Cundinamarca y Boyacá, en plena meseta andina, a 2,430 m. de altura sobre el nivel del mar, con una temperatura ambiente de 14 grados centígrados; fué llamada también de Tinjacá,[6] por una población que queda cerca a sus orillas boyacenses y también se le nombró de Siguacinsá.[7] La forman los ríos Susa y Ubaté y de ella se origina el río Saravita o Suárez. En sus márgenes, muy extensas pues medía de Sur a Norte, cincuenta kilómetros y de Este a Oeste, veinte kilómetros,[8] habitaron las subtribus de Tibaquiras, Siras, Cucaitas, Safas, Furaquirás, Sachicas y Tinjacás. Su extensión debió darle una gran importancia en la vida religiosa de los Muiskas que adoraban a sus Dioses en los lagos ofreciéndoles figurillas de oro u otros sacrificios por medio de los Jeques o sacerdotes que según Simón "llegando al lugar del santuario, levantaban en ambas palmas la figurilla que llevaban envuelta en algodón, decía algunas palabras en que significaba la necesidad del que ofrecía y pedía el remedio para ellas, y puesto de rodillas la arrojaba en las aguas de manera que se fuera a pique." Liborio Zerda y Basilio Vicente de Oviedo[9] afirman que en el más grande de dos islotes que encierra esta laguna, tenían los indígenas un templo y varios adoratorios servidos por cien sacerdotes. No menos importante fué este lago en la economía indígena, por las pesquerías que en ella efectuaban, del pescado llamado "capitán" y sabido es, según Simón, que ofrecían "pedazos de oro, cuentas y otras cosas, para tener mejor suerte en las pesquerías." Por último, y según Aguado, dicha laguna protegió a los nativos en la rebelión que intentaron contra Hernán Pérez de Quesada, hermano del descubridor del Nuevo Reino de Granada, a quien huyendo se refugiaron en las islas" a las cuales pasaban los indios con balsas que de hebea (junco. *Juncus*-) hacían, y por no ser las islas tan grandes que pudiese en ellas caber la multitud de los naturales que a esta laguna se recogían, hacían balsas muy grandes de la propia hebea y en ellas aunque groseramente hechas, hacían sus apartados, y habitaban y vivían sobre la laguna todas las más familias."

A partir del descubrimiento, y debido a la tala de los bosques que protegían los ríos, el lago ha venido desecándose, especialmente en sus orillas norte y este, desecación que en el año 1941 se hizo mayor por la culminación de una larga estación seca y por trabajos de canalización de sus desagües. En ese año tuve la oportunidad de saber que algunos restos arqueológicos se estaban encontrando en la nueva zona desecada y practiqué investigaciones arqueológicas en el lado norte, hacienda Puerto Rico, Departamento de Boyacá, con los resultados siguientes:

A unos doscientos metros de distancia de la roca que fuera límite antiguo del lago, y sobre la superficie plana que dejara en su primera y progresiva desecación, hallé primero y superficialmente un espacio cubierto de fragmentos de cerámica de color, pasta, y formas y decoraciones típicas de la cultura Chibcha; fragmentos de metate y piedras de moler; hachas y cinceles de piedra; "torteros" y volantes de uso en piedra y pesas de piedra para la pesca con red o chinchorro (Pl. XIV, *c*, *e*). Siguiendo el borde actual del lago por la misma zona, a sesenta metros había otro espacio de terreno con los mismos objetos, y a veintiocho metros del anterior un tercer espacio con iguales fragmentos de cerámica y piedras trabajadas. Los numerosos desechos de objetos de uso común hallados en esos tres sitios y su localización sobre una superficie que indudablemente hasta hace pocos años fué cubierta por las aguas, revelan claramente la existencia de habitaciones lacustres, aunque no es posible comprobar la huella de los pilotes de sustentación de las viviendas, debido a que el subsuelo hasta una gran profundidad está formado por detritus vegetales muy húmedos y en descomposición. Nunca antes se supo de tal tipo de habitación sobre las aguas entre los Chibchas Muiskas, cuyas cabañas fueron siempre descritas como levantadas sobre terreno seco.

El descenso del nivel del agua debido a la prolongada sequía que culminó a fines de 1941 así como el drenaje para desecación de tierras,

[6] Fray Pedro de Aguado, *op. cit.*, Libro Cuarto, Cap, Quinto págs 208.

[7] Liborio Zerda. *El Dorado, Estudio Histórico, Etnográfico y Arqueológico de los Chibchas, habitantes de la antigua Cundinamarca, y de algunas otras tribus*, Bogotá, 1883.

[8] En 1860 media ya de Norte a Sur quince Kilómetros y de Este a Oeste cinco kilómetros, según Felipe Pérez en su *Geografía Física y Política de los Estados Unidos de Colombia*. En la *Geografía de Cundinamarca*, por el Hermano Justo Ramon, 1937, se dan a la laguna 25 Kmts cuadrados se superficie, 15 Kmts, de longitud, y profundidad media de 5 metros.

[9] Basilio Vicente de Oviedo, *Cualidades y riquezas del Nuevo Reino de Granada*, Bogotá, Imprenta Nacional, 1930.

dejaron al descubierto una nueva zona de orilla que puede distinguirse en la fotografía (Pl. XIV, *b*), formada por lodo arcilloso color gris claro, que al secarse en la superficie fué formando grietas profundas, algunas de las cuales dejaron ver piedras redondeadas en tres lugares situados precisamente en frente de los lugares de habitación lacustre. Extraídas, tales piedras resultaron ser estatuillas de piedra arenisca, casi todas muy pulidas por las aguas, la mayoría de tipo crudo, muy primitivo, algunas con facciones iguales a las vasijas efigies del mismo pueblo. Treinta de estas estatuillas fueron excavadas en frente de los dos primeros sitios de habitación, y cinco frente al tercero, ye se hallaron formando grupos sin que entre el emplazamiento de las estatuas y los sitios con desechos de habitación hubiera ninguna huella humana (Pl. XIV, *g*).

Todas las estatuillas estaban colocadas en un estrato de diez a quince centímetros bajo el nivel del piso, entre la capa superficial de lodo arcilloso y una capa delgada de palos y pedrezuelas a la que sigue en profundidad la capa profunda de detritus vegetales que constituye un fondo antiguo del lago. Quatro de las cinco últimas estatuillas halladas se muestran en la foto (Pl. XIV, *g*, 1–4), y por las fotos (Pl. XIV, *g*, 6–11) pueden observarse las variaciones del estilo general de estas esculturas que miden de 12 a 22 centímetros de altura, 8 a 13 centímetros de ancho, y 6 a 12 centímetros, de espesor. La cabeza ocupa generalmente un tercio de la altura total; los ojos y la boca son figurados por incisiones; la naríz es angosta y relievada formando T con la línea de la frente; los brazos se relievan cruzándose bajo la cara y las piernas son angostas y separadas a partir de los brazos, o en los ejemplares más avanzados se hallan dos cortos salientes bajo una faja relievada que rodea, por el pié, las figuras, como si fuera estilización de una corta falda. En general, la apariencia de estas estatuillas es de cortas columnas apenas figuradas en relieves que se lograron por abrasión con otras piedras y arena, como lo demuestran algunas de las piezas mejor conservadas.

Continuando observaciones en la zona nuevamente desecada, hallé con la misma colocación de las estatuillas y en un espacio de 90 por 90 centímetros de superficie, cincuenta y tres pesas de piedra para la pesca con red (Pl. XIV, *e*). Su forma general es de elipse abombada, y varián en tamaño desde 6 por 5 centímetros de diámetro y 1.5 centímetros de grueso, hasta 7.7 por 5.7 centímetros de diámetro y 2 centímetros de grueso. Están provistas las pesas de una acanaladura que las rodea por el centro menos ancho de la elipse, en general, o de dos depresiones laterales en el centro, acanaladuras y depresiones hechas por abrasión y que debieron servir para atarlas a la red o chinchorro de pescar.

Fray Pedro Simón afirma que ofrecían estos Chibchas sacrificios en las aguas para tener más suerte en las pesquerías,[10] lo cual lleva a creer que las estatuillas halladas fueron materia de sacrificio para obtener mejor pesca, ofrendadas por esos indios que habitaron en las márgenes del gran lago sobre casas lacustres, cuya vida económica debió depender principalmente del pescado verde-oscuro que lo habita y que, según la fantasía religiosa de los colonos españoles, tiene entre los huesos de su cabeza la cruz, la lanza, los clavos y la esponja enastada del martirio de Cristo.

Entre los objetos hallados al revizar el terreno que en tiempos antiguos debió ser cubierto por el agua, merece mencionarse una estatuilla de madera, que resistió a la acción del agua hasta ser posible distinguir sus formas, cuyo detalle es así (Pl. XIV, *g*, 5): con una altura de 16 centímetros, y corte horizontal circular de 6 centímetros, de diámetro, tiene una cara de 5 centímetros de altura. La nariz relievada forma T con la línea de la frente; los ojos salientes son redondos; la boca también en relieve es en forma de elipse imperfecta. Los brazos delgados se plegan dirigidos hacia arriba, y entre el ángulo de los codos sobresalen las tetillas. Entre las manos y en el ombligo hay convexidades. Una saliente circular rodea la estatuilla sobre las piernas que son separadas y cortas. En el centro de la espalda hay tres concavidades circulares en colocación vertical y una a cada lado, concavidades que se repiten en la parte superior de las piernas, dos en cada una, colocadas horizontalmente.

Para ilustrar mejor los detalles culturales de los Chibchas revelados por esta investigación, deben agregarse algunos detalles de los objetos hallados como huella o desechos de las habitaciones lacustres:

Numerosos fragmentos de vasijas, de pasta rosácea, con mezcla de tiestos molidos y pedrezuelas aluviales; decoraciones pintadas en rojo

[10] Fray Pedro Simón, *Cuarta Noticia*, Cap II, page 280.

oscuro y en algunos casos incisas. En cuanto a formas, predominan la olla globular de cuatro azas verticales y corto cuello, y un cántaro globular alargado, de cuello estrecho y alto y aza vertical aplanada, forma que aún se usa entre los campesinos para acarrear líquidos y que llaman "múcura." Particular interés presenta la prescencia de un vaso en forma tubular de base plana, de 8 centímetros de alto, 7.5 centímetros de diámetro, 2 centímetros de espesor en la base y lados gruesos que van adelgazándose hacia el borde, el cual presenta una acanaladura, siendo además notorio en la pasta el que dicho recipiente fué muy cocido, todo lo cual hace pensar que se trata de un crisol para fundir metales.

Una figurilla humana de arcilla cocida y varias miniaturas de vasijas—ollas de cuatro azas y tazas de base cónica—se hallaron también entre las piezas de cerámica de la zona estudiada.

Los útiles de piedra recogidos son todos pulimentados y entre ellos hay hachas, azuelas y cinceles. De las hachas, una de 13 centímetros de largo, 2 de grueso, 9.5 de ancho en el lado cortante y 8.5 en el cabo, presenta cerca a este una estrechura para el amarre; las demás son de tipo simple neolítico con detalles así:

| Largo (cm.) | Grueso (cm.) | Ancho en lado cortante (cm.) | Ancho en cabo (cm.) |
|---|---|---|---|
| 8.5 | 2.3 | 4.8 | 3.7 |
| 7.5 | 1.5 | 3.8 | 2.5 |
| 6.8 | 2.0 | 4.5 | 3.5 |

Un ejemplar de azuela recogido mide largo 8.5 cm., grueso 1.5 cm., anchos, 5 en lado cortante, y 3 en cabo.

Dos cinceles miden: el uno largo 9.5 cm., grueso 1.5 cm., anchos 1.8 cm. en extremos, y 2.5 cm. en centro; el otro largo 9.5 cm., grueso 1.5 cm., anchos 1.5 cm. lado cortante, y 3 cm. en el cabo.

Los volantes de huso para hilar, también de piedra, son en su mayoría discoidales, con decoración rayada en un lado y miden de diámetro y grueso 5.8 por 0.7, 4.6 por 0.4, 3.8 por 0.4, 2.8 por 1. Uno de los ejemplares es de forma cónica de 2.7 cm. de diámetro en la base y 2.2 de altura.

Las piedras de moler usadas por los antiguos habitadores de la laguna son de tipo rectangular, planas, ligeramente cóncavas o con un lado especialmente adelgazado para dejar sacar la mazao materia molida. De estas piedras los mayores fragmentos recogidos miden 18 por 13 cm., 18 por 11, y 12 por 12, y tienen gruesos de 3.5 cm. la parte más levantada y 1.5 cm. en la más delgada. Las manos de moler son más numerosas y los fragmentos recogidos varían entre 8 y 23 cm. de largo, unos de corte transversal elíptico eran destinados a moler por los extremos, y otros de un lado plano—superficie moledora—adoptan las formas de semicírculo, semiovoide, pirámide, o pirámide rebajada de ángulos redondeados en su corté transversal, variando las alturas o espesores de tales fragmentos de manos entre 2.5 y 5 cm.

Hasta aquí los hallazgos que nos fué posible hacer en la laguna de Fúquene, región habitada por los indios Chibchas Muiskas de Cundinamarca y Bogotá, Colombia. La tipología de todas las piezas coincide exactamente con la de objetos semejantes de procedencia chibcha. La colocación de los fragmentos y utensilios demuestra el uso de habitación lacustre, y la presencia de estatuillas de piedra, la práctica de la escultura entre los chibchas Muiskas, dos cosas no mencionadas por los cronistas que trazaron la etnografía de ese pueblo, ni por ninguno de los autores que los siguieron, como Ezequiel Uricoechea,[11] Liborio Zerda[12] y Vicente Restrepo.[13] Además, estos hallazgos corroboran el uso de la red con pesas de piedra para la pezca y abren un nuevo horizonte en el conocimiento de la religión de dicho pueblo, por las ofrendas de las estatuas entre las aguas frías del lago de la alta meseta de la cordillera oriental de los Andes, en el centro de Colombia.

Bágota, Colombia. Apartado 23–34
April, 1944

---

[11] Ezequiel Uricoechea, *Memoria sobre las Antigüedades Neo-Granadinas*, Berlin, 1854.

[12] Liborio Zerda, *op. cit.*

[13] Vicente Restrepo, *Los Chibchas antes de la Conquista Española*, Bogotá, 1895.

# MYTH AND MAMMOTH IN ARCHAEOLOGY

LOREN C. EISELEY

TRADITIONS have an incalculable appeal to the human mind. Often tenuous, remote, impossible to prove, they are occasionally startling. The frustrated researcher upon some fascinating problem of human history which fails, otherwise, of solution comes again and again to the consideration of floating tales which seem to hold a kernel of truth, a hint—just a faint hint—of veracity masked in the trappings of legend. Such material may be used, but on the whole it is ghostly, disembodied, and unverifiable. Lacking corroboration, it fails to bring conviction. Often the tale has been borne by some single native who, long since disappeared into forest anonymity, is no longer available for questioning. His story may, however, have passed through several intermediate hands and be quoted in old books whose scholarship is naive. The result is that, use these sources as we may, we turn seriously to other more tangible means of establishing truth. Then, if the search languishes, we are prone to return, still captivated, to the tale spun long ago.

It is just ten years since Dr. W. D. Strong published his well-known study, "North American Indian Traditions Suggesting a Knowledge of the Mammoth."[1] It was written at a time when American archaeologists were somewhat more conservative on the subject of human antiquity in the New World than they are today. Nevertheless, it is a careful, measured presentation of certain oral traditions suggesting knowledge of fossil vertebrates on the part of the American Indian. At no point does Strong suggest that these data can take the place of objective evidence. In fact, he specifically comments, "conclusive proof of such suggested associations will generally rest with the paleontologist and archaeologist. . . ."[2] He also thinks that many of these tales can be dismissed as mythical rationalizations based on the mere observation of fossil bones by the aborigines. A residue, however, he feels are less easily explainable.

In the ten years which have elapsed, the association of man with extinct animals in the New World has been completely substantiated. Yet nowhere, to date, has there been clear and satisfying evidence of human association with extinct animals on the upper archaeological horizons from which certain of these legends might seem to have been derived. Nevertheless, there has been a tendency here and there to refer to this legendary material as though it completely settled the question of the survival of the mammoth or mastodon into the last few centuries. The pause in archaeological activities engendered by the war has perhaps drawn us back to this tantalizing, if somewhat sterile, field. At all events, Strong's paper is sometimes used, without adequate reference to his own restrictions, as "proof" of late survival. Dr. Ashley-Montagu, for example, in a late paper labels as "generally accepted" the conclusion that Indian myths relating to fossil animals may be regarded as historical tradition.[3]

That phrase, "generally accepted," is an easy and dangerous one. So far as I know, no one has taken a vote on the subject, nor does Strong commit himself on the question of recency of survival with quite the same vigor as does Ashley-Montagu. G. G. Simpson has expressed himself against the authenticity of certain myths of this kind,[4] and his standing as a paleontologist is well known. If Ashley-Montagu means to imply that Strong has successfully demonstrated the extreme recency of a Pleistocene form, I would disagree, until, that is, there is accompanying unequivocal archaeological proof. I am sure Strong would assent to this stricture. Until such time, phrases like "generally accepted" must, I think, be avoided in the interests of maintaining an objectively impartial approach.

Recently there came into my hands some source material dealing with the history of paleontology at the close of the eighteenth century. By chance it threw light upon events which, I have become convinced, have played their part in creating a favorable background for the development of legends about ex-

[1] Strong, 1934.

[2] *Ibid.*, pp. 81–82.

[3] Ashley-Montagu, 1944, p. 569.

[4] Simpson, 1942, p. 132. He says in part, "Various reported Indian legends of fabulous beasts represented by fossil bones have little ethnological and no paleontological value; the data are sparse, often untrustworthy and carry little conviction of *genuine and spontaneous* (truly aboriginal) reference to real finds of fossils." [Italics mine. L. E.]

tinct beasts in the New World. In trying to set forth these views, I do not pretend to explain the origin of every individual tradition relating to strange animals, nor to minimize the interest of such traditions. I do, however, hope to show that the latter half of the eighteenth century and the earlier portion of the nineteenth were a favorable seed bed for the creation of myths such as we have been discussing. We have, in short, occupied ourselves with so-called aboriginal tradition. Rather strangely, for anthropologists, we have paid absolutely no attention to the intellectual environment, the cultural milieu out of which many of these legends, endlessly repeated in the literature, came. It is this background which I propose to examine.

---

The first European intruders into the New World entered a region in which, because of its small population and simple cultures, there had been no serious interference with the fossil relics of the ancient past. Bones were scattered widely along the eroding banks of streams or in other fossiliferous localities. Some were enormously large and quickly attracted the eye of the curious. It was not long until the natives were being plied with questions about them.

Though Thomas Jefferson was not the very first individual to record Indian traditions surrounding extinct fossil remains, his *Notes on Virginia* written in 1782 was probably the first widely circulated book which made mention of such legends. The author's prominence and his many controversies with the French scientist Buffon caused his book to receive marked attention abroad.

Jefferson, after making ample reference to widespread remains of the mammoth, goes on to narrate a legend, secured from a Delaware chief, to the effect that these animals were yet in existence. President Jefferson further recites the case of a man named Stanley who, taken prisoner and apparently transported across the Rockies, was also told that these animals still existed. Jefferson says that, from the natives' description, Stanley "judged it to be an elephant." This last remark has been viewed as significant. It must be noted, however, that the data come to us at third hand and that the quotation given above—i.e., Stanley "*judged*"—is the sole comment made by Jefferson in regard to the case. The question as to how much or how little this may mean has to be viewed in the light of the religious and other prejudices of the period.

The tradition given by Jefferson refers to Big Bone Lick, a fossil deposit of unusual character, and one discussed before Jefferson's time.[5] During the earlier period, similar Shawnee myths are encountered, but there is no reference to the animals as still in existence. Descriptions are vague, the animals are described as carnivorous, and it is obvious that only "myths of observation" are involved. What, we may inquire, put such emphasis upon survival that Jefferson eventually records "the traditionary testimony of the Indians, that this animal still exists in the northern and western parts of America"?[6]

It must be remembered that the eighteenth century and the beginning years of the nineteenth marked the rise of intense zoological interest among the intelligentsia of the New and Old Worlds. The great eighteenth century forerunners of Darwin—Buffon, Cuvier, and others—were beginning to approach, with much hesitancy and many misgivings, the problem of specific change. Others fought back with vigor. America, with its strange animals, its mysterious bones, and a human race unaccounted for in Biblical terms, had contributed to those uneasy stirrings. A science was being born. The specialist bewailing the lack of interest in his subject today may be surprised to learn that mammoth, sloth, and other bones were taken back to Europe and exhibited for a fee in polite circles. We find Jefferson advising one lad that he may make a fortune in this way.[7]

Men crossed the Atlantic to pursue the subject. Indians were questioned. Jefferson's legend was plagiarized and repeated. But one must keep the background of all this in mind: In spite of intense stirrings of curiosity, religious conservatism held the field—would hold it until Darwin. Men knew but little of the science which was to become geology. They sought explanations of the mammoth in terms of Biblical quotations. They talked of Behemoth. The millenial swing of the glacial pendulum was unknown. Here were bones. If the beast had existed, he must still exist. Jefferson, for example, certainly no religious fanatic,

[5] Simpson, *op. cit.*
[6] Ford, 1904, p. 427.
[7] Letter to Charles Wilson Peale, May 5, 1802.

comments almost piously, "such is the economy of nature that no instance can be produced of her having permitted any one race of her animals to become extinct; of her having formed any link in her great work so weak as to be broken."[8] Decades later, Thomas Ashe reiterated this view.[9] Later in this same paper Ashe wavers toward the notion of extinction, but never dares to confront the heretical thought openly.

As for the Indians, involved in their own vast animal mythology, it is quite likely that they responded to these myriads of questions with elaboration and desire to please. We know, for example, that Jefferson, who had described certain sloth bones as Megalonyx, which he conceived as a huge lion-like carnivore, grew doubtful finally and began to entertain the thought that his Megalonyx might, after all, be a herbivore similar to one of the South American sloths (from Paraguay) described by a Spanish zoologist.[10] Despondent, he appealed once more to the Indians. Obligingly they assured him it was just such a ferocious beast as he had conceived it to be. The pleased Jefferson then reaffirmed his belief in his creation. Not the least interesting part of this little byplay is the fact that a legend which Jefferson had first thought referred to the mammoth later was affixed by him to his giant lion. In this he was imitated by Ashe.

The Indians found no difficulty in suggesting that these creatures for which the white men seemed to be searching lay farther on in the heart of the wilderness, or "across the lakes." They were not paleontologists, and the time stream meant little to them. The bones were there. Doubtless grandfather had seen them alive. Probably they still existed somewhere across the lakes. It was not a day in which skilled ethnologists employed subtle techniques in questioning. We can imagine extensive descriptions of elephants more than once eliciting enthusiastic affirmatives from the impressed Indians. Gold, to the white man's sorrow, was often sought by the same methods.

Two other items of information available to us make the occasional appearance of elephant descriptions (such as the one which Strong quotes from Swanton) seem less spectacular when we consider their comparatively late date. The Indians of the Southeast, as is well known, began to intermingle very early with runaway Negro slaves. As a matter of fact, many such Negroes, freshly brought from Africa, were more intimately acquainted with the bones of elephants than were their white masters. Howorth, quoting from an early history of Carolina, describes how certain Negro slaves had identified several disinterred molars as those of an elephant.[11] It must be clear, in the light of this evidence, that vague descriptions of elephants among the Indians of the colonial Southeast, even if recognizable, do not demand an immediate assumption of indigenous origin.

In the North, too, there are many complicating features which may give rise occasionally to stories.[12] From the middle of the eighteenth century right down into the nineteenth, the collection of mammoth ivory was an important industry in Siberia, and complete carcasses were found. Such ivory was searched for in Alaska by the Russians. And, to add to the complications, the existing elephant is known to have survived in China as late as the period of the Shang Dynasty. When we consider these facts, taking into account the circumpolar distribution of design elements, scapulimancy, and other cultural traits such as myths, it would not be surprising if a few reminiscences of elephant-like creatures should be encountered in that northern region so closely linked to the Old World.

We come now to a summary of the views which the foregoing material seems to justify. First of all, and perhaps most importantly, it must be emphasized that in the period of Jefferson and Ashe, paleontology as a science was in its birth throes, "the sucession of species in the rocks undreamed of," to quote Osborn.[13]

[8] Ford, 1904, p. 427.

[9] Ashe, 1806.

[10] Letter to Colonel John Stuart, August 15, 1797.

[11] Howorth, 1887, p. 274. The work to which Howorth refers is Catesby, 1743, Vol. II, Appendix, p. vii. A fuller account is given by Simpson (*op. cit.*, p. 134), who quotes Catesby as follows: "At a place in Carolina called Stono was dug out of the Earth three or four Teeth of a large animal, which by the concurring Opinion of all the Negroes, native Africans, that saw them, were the Grinders of an Elephant, and in my Opinion they could be no other; I having seen some of the like that are brought from Africa." Simpson estimates the date of this episode as prior to 1739 and comments that these Negro slaves made the first technical identification of an American fossil vertebrate!

[12] It must be noted that few, if any, of the most suggestive stories quoted turn up with the persistence of really substantial legend. Frank Speck has pointed out the dangers of confusing accounts of supposedly extinct animals with purely mythological beings. Speck, 1935.

[13] Osborn, 1929, p. 201.

People, as a consequence, sought explanations of fossil remains which would relate these fossils to the immediate historical past[13a] or even demonstrate their survival in the unknown interior of the continent. There were, it must be emphasized, strong religious pressures encouraging the latter view. The wavering and contradictory hesitancy in the writings of Ashe, for example, are illustrative of the timidity with which the subject of extinction was being treated. There can be no doubt that this attitude played its part in encouraging the natives to refer these unknown animals in which the whites manifested such interest to out-of-the-way regions.

Big Bone Lick seems the center of a myth which was perpetuated in the literature. Even Koch's Osage story, reviewed by Ashley-Montagu, sounds suspiciously like a variant version of it. The fact that mammoth bones have been occasionally unearthed in deposits or areas referred to by the myths is not impressive when one considers the wide distribution of remains of mammoth and mastodon or the possibility that the bones themselves produced the legends.

In fact, these stories seem to show a suspicious growth in numbers just at the time when white interest and enthusiasm were keenest. We have noted also that African migrants acquainted with the huge bones of the elephant became widely distributed in the Southeast during this same period.

The results of our survey are sufficient, I believe, to make imperative a continued archaeological pursuit of the time of extinction. Certain of the tribes referred to by those impressed with legendary descriptions of huge beasts have moved about, even in the protohistoric period.[14] It would be better, if we seek to establish the existence of the mammoth or any other extinct form in the more recent past of these particular areas, to obtain its remains from verifiable archaeological levels. The lack of such evidence from horizons excavated to date tends to negate all claims for legendry which would demand the presence of the mammoth or the horse at the time of white intrusion, or immediately prior to it. Too often there is a tendency to speak as though these early reports settled the matter, even though the records show that similar beliefs were once entertained about the Old World mammoth, only to be abandoned later. We cannot, in all fairness, regard the matter as settled so long as the archaeological evidence does not confirm the myth and so long as other evidence shows that the American Indian, far from living in a vacuum, was being affected by the zoological enthusiasms of his white contemporaries.

[13a] John Rankin, for instance, in 1826, was still defending the view that fossil bones were those of existing species of animals, killed in the course of Roman games or in the hunts of Mongolian sovereigns.

[14] It is to be noted, for example, that the Shawnee seem to have moved west to the Ohio and the neighborhood of Big Bone Lick about 1728. They did not long precede the whites in that region about whose fossil remains they spoke so glibly. Weslager, 1943, pp. 346–347.

## BIBLIOGRAPHY


ASHE, THOMAS
1806. *Memoirs of Mammoth and Other Extraordinary and Stupendous Bones of Incognita, or Non-Descript Animals Found in the Vicinity of the Ohio, Wabash, Illinois, Mississippi, Missouri, Osage and Red Rivers.* Liverpool.

ASHLEY-MONTAGU, M. F.
1944. "An Indian Tradition Relating to the Mastodon." *American Anthropologist*, Vol. 46.

CATESBY, MARK
1743. *The Natural History of Carolina, Florida and the Bahama Islands.*

FORD, P. L., ED.
1904. *The Works of Thomas Jefferson*, Vol. 3. G. P. Putnam's Sons, New York.

HOWORTH, H. H.
1887. *The Mammoth and the Flood.* London.

OSBORN, H. F.
1929. *From the Greeks to Darwin.* Scribner's Sons, New York.

RANKIN, JOHN
1826. *Historical Researches on the Wars and Sports of the Mongols and Romans; in which Elephants and wild beasts were employed or slain: and the remarkable local agreement of History with the Remains of such animals found in Europe and Siberia.* London.

SIMPSON, G. G.
1942. "Beginnings of Vertebrate Paleontology in North America." *Proceedings of the American Philosophical Society*, Vol. 86.

SPECK, F. G.
1935. "Mammoth or Stiff-Legged Bear." *American Anthropologist*, Vol. 37, pp. 159–163.

STRONG, W. D.
1934. "North American Indian Traditions Suggesting a Knowledge of the Mammoth." *American Anthropologist*, Vol. 36, pp. 81–88.

WESLAGER, C. A.
1943. "The Nanticoke Indians in Early Pennsylvania." *The Pennsylvania Magazine of History and Biography*, Vol. 67.


Oberlin College
Oberlin, Ohio
December, 1944

# ARCHAEOLOGY IN THE ROCK AND PELICAN LAKE AREA OF SOUTH-CENTRAL MANITOBA

CHRIS VICKERS

THE NOTES which follow are the work of an amateur. I am fully aware of the possibility that all of the conclusions, speculations, and suggestions contained in them may be refuted by further inquiry. This would not be unwelcome, for the main reason for compiling the material was the hope that some day The National Museum of Canada and the various scientific institutions in the province would attack the intriguing problems of our archaeology. The University of Manitoba, The Manitoba Museum Association, The Manitoba Historical Society, The Natural History Society, The Government of the Province of Manitoba, and others should be aware of the rich story of our past and should give earnest consideration to securing the necessary funds and properly trained personnel to interpret that story.

If any merit appears in what follows, most of the credit must go to many friends: to members of the Manitoba Museum Association who are always helpful and kind; to farmers who always give permission to examine sites on their land; to Dr. Douglas Leechman of the National Museum of Canada, who very kindly revised the manuscript; and to my son Ivan Vickers, who has been my constant companion during many years of archaeological study and who at sixteen years is an equal partner in all our work.

## THE AREA

Geographically speaking, the area covered in this paper is encompassed by the rural municipalities of Argyle and Strathcona, in south-central Manitoba, about fifteen miles north of the international boundary, and at latitude 49°15′ north and longitude 99°30′ west. The chief topographical features are Rock and Pelican Lakes, which form in a large measure the southern boundary of the area, and the Tiger Hills, which cover most of the northern portion, from east to west. To the geologist, the district has many points of interest: the deep, wide valley in which the two lakes lie is part of the old drainage system of glacial Lake Souris; the Tiger Hills are a terminal moraine of the ice sheet. The area between the two main topographical features is dotted with countless small lakes and water-laden depressions. It is today—and it is likely that it always has been—a hunters paradise. Only periods of severe drought could deplete its game resources. Since 1880 it has supported the white man with, on the whole, excellent returns from mixed farming. Archaeological remains give evidence that the red man found the district, for a time at least, equally inviting. The remarks that follow are not to be considered a complete survey of the archaeology of the district, nor must they even be considered complete in regard to any one site; rather, they are a report of progress, prepared in the hope that the bare outline presented will stimulate further action by organized scientific institutions.

## RECENT HUNTING PEOPLES

The direct historical approach and the mid-western taxonomic method, combined, have, in the opinion of this writer, become effective tools in reconstructing the story of the past. M. W. Stirling, of the Bureau of American Ethnology, has well said, "Archaeology should primarily constitute an attempt to reconstruct ethnological and historical facts." To work from the historic to the prehistoric has been the principle that has guided our survey of the area. It was our belief that, if the camps of recent hunting peoples could be isolated, then, in the words of Wedel, "a whole series of sites could soon be removed from the category of unknowns."

It is the misfortune of the archaeologist that most of southern Manitoba was occupied at the dawn of the historic period (early eighteenth century) by the nomadic Assiniboine. Camp sites of this tribe were often small and occupied for a limited time only, with the result that the material left for the modern worker is limited and frequently insignificant. It would seem safe to assume, however, that Assiniboine hunters were periodic occupants of the area. This does not exclude the possibility of temporary occupancy by other Siouan tribes, particularly the Hidatsa, with an odd visit from the Cree. Documentation of part of this assumption will be found in the Journal of Alexander Henry, the younger. Writing under the date of October 14, 1800, he states, "I hired Nanaundeyea to go toward the Ribbone lakes in search of the

Crees and Assiniboines, and try to prevail upon some of them to come to our establishment."[1] On pages 119 and 120 there is also the following remark by Henry: "We observed a thick smoke toward the Ribbone lakes, which makes me believe my messenger will find the Indians there."

With reference to particular sites, the writer is of the opinion that the Kreiger Site (S.W. ¼ Sec. 27, T. 5 N, R. 16 W.) and the Preston Site (N.W. ¼ Sec. 26, T. 4 N., R. 13 W.) were occupied by recent hunting peoples. Large, well-made arrow points and crude grooved stone hammers are characteristic of both. White contact material is present in the form of gun flints, glass beads, and the lid of a copper kettle of the trade type. There is not any doubt that these sites were occupied within the historic period. To identify the tribe, however, is a problem beyond the resources of a single worker. Accurate and detailed study of the historic and protohistoric Assiniboine is an urgent need in the anthropology of southern Manitoba. They were the first of the Siouan tribes to reach the great northern plains, and the possibility that our Manitoba mounds were built by a people directly ancestral to them requires investigation. Irrespective of the answer, the archaeology of the historic and protohistoric Assiniboine may well hold the key that will open wide the door to the prehistory of southern Manitoba.

### THE ROCK LAKE MOUNDS

On the level plain north of Rock Lake there are seven burial mounds and one extensive earthwork. These mounds are scattered along the whole of the north shore of the lake and extend westward above the valley of the Pembina River. The possibility of additional mounds is not precluded; part of the plain north of the lake is heavily wooded with a comparatively recent growth of poplar and oak, and the likelihood of further discovery is good. Most of the mounds have been partly excavated. This, so far as we can learn, was done mainly by curio hunters during the last two decades of the past century; we have not been able to ascertain what material, if any, was removed. The only scientific excavations were made by Dr. Henry Montgomery in 1907 on the Rock Lake Mound above the summer resort (S.W. ¼ Sec. 14, T. 3 N., R. 13 W.) A communication from the Royal Ontario Museum of Archaeology is not clear as to what was removed from this mound—it lists only a hammer as coming from Rock Lake—but there is a good possibility that some of the specimens in the Royal Ontario Museum, listed as coming from the Pilot Mound district, were from the Rock Lake Mound, since the village of Pilot Mound was probably Dr. Montgomery's headquarters in the Rock Lake district. While most of these mounds have been disturbed, the writer is of the opinion the disturbance was not extensive and that a rich harvest may yet await the trained archaeologist.

During the month of August, 1943, the writer, together with some members of the Manitoba Museum Association, made a partial excavation of the most westerly of the Rock Lake mounds (S.W. ¼ Sec. 29, T. 3 N., R. 14 W.). This was named the McLaren Mound after Mr. P. L. McLaren, the owner of the farm on which it was situated. Several days of careful work through the heart of the mound revealed two bundle burials, one of a child about six years old, and the other of an adult person. Only fragmentary portions of the skulls were present; indeed, the skeletal remains were disappointing. No artifacts were associated with the child burial. With the adult burial were found a gorget of red catlinite in the form of a hatchet, a tubular pipe of soapstone, a whetstone of some abrasive material, a polished disk with a number of faint notches at one edge, two crude knives, a snub-nosed scraper (straight flake), and a broken projectile point. The mound, which was circular and about 55 feet in diameter, was constructed of black earth with a few stones. Burials and artifacts were at a depth of 4 feet 4 inches below the upper surface of the mound and appear to have been laid on the original ground level. A heavy post had stood almost directly above the burials and close to the center of the mound; it was burned, and charcoal was found throughout its entire depth. Birch bark was present, but the partial excavation did not reveal any pottery.

One hundred yards south of the McLaren Mound lie the McLaren Earthworks. These run in a southerly direction for a distance of 608 feet. They range in width from 19–35 feet and

[1] Coues, 1897, Vol. 1, p. 119. Henry's Ribbone Lakes or Lacs du Placotte, sometimes corrupted to Ribbon or even Riband, were the names applied to Rock, Pelican, and Swan Lakes by the fur traders in the early years of the nineteenth century.

in height from 2–4 feet. Test excavation at the south end of these earthworks revealed further human burials ruinously disturbed by badger burrowing. This end of the earthworks was apparently built mainly of camp rubbish, for charcoal, shell, and flint flakes were plentiful. There were a few grit-tempered potsherds and two fine artifacts, a knife and an arrow point, both of chalcedony.

At the east end of the Rock Lake there are two mounds known as the Cavers Mounds (S.W. ¼ Sec. 13, T. 3 N., R. 13 W.), named after Mr. Douglas Cavers, owner of the property. They have both been slightly disturbed but have yielded one interesting specimen. This is a complete miniature pot, which was thrown out of one of the mounds by badger activity and recovered by Mr. Cavers about fifty years ago. This pottery vessel is now in the writer's collection. It is 3.1 inches high and about 3.3 inches wide at its greatest width. Dull buff in color, it has cord impressions on top of an outflaring rim and geometric decorations formed by incised lines on the body.

Of the other mounds in the area, the Olson and Odell Mounds await detailed examination. The seventh, known as the Crayston Mound S.E. ¼ Sec. 20, T. 3 N., R. 13 W.), was examined by the writer during the autumn of 1941. Excavation through the middle revealed a cremated burial, some tubular pipe fragments, a few artifacts, and two pottery sherds similar to those from the McLaren Earthworks and the Avery Village Site, the latter of which is discussed below.

The presence of these mounds suggests the close proximity of camp or village sites. The location of such remains in the area, however, is difficult because of the rough and often wooden terrain. Three sites should receive careful investigation. One (N.E. ¼ Sec. 33, T. 3 N., R. 13 W.), discovered by Mr. Frank Brown of Glenora and examined only on the surface, does not hold much promise of being connected with the builders of the mounds. A second site (N.E. ¼ Sec. 24, T. 3 N., R. 14 W.), located by A. E. Macklin of Glenora, may prove more interesting. It is less than half a mile from the Olson Mound, but the material recovered to date is too limited to furnish a basis for opinion. A third site (S. ½ Sec. 30, T. 3 N., R. 13 W.) holds equal promise; it is also close to the Olson Mound. Examination of material in the Macklin collection, recovered only from the surface, indicates some similarity between the scrapers and projectile points and those from the mounds and from the village site discussed in the next paragraph. Some material is confusing. The answer may lie in the fact that the site is on the same ground as an old buffalo pound, built of logs and still partly visible in the early 1880's. It is likely that this pound was the work of recent hunting peoples, and the possibility of a double occupation is evident.[2] Nothing indicating camp or village life has been found close to the most impressive of the Rock Lake tumuli, the McLaren Mound and Earthworks.

The most important recent discovery relating to this Rock Lake mound-building culture is an extensive village site on a level table above the Avery Hotel and below the Rock Lake Mound (S.W. ¼ Sec. 14, T. 3 N., R. 13 W.). Several hundred pottery fragments excavated during the autumn of 1944 would seem to indicate that it is one of the village sites occupied by the people who built the mounds. These fragments compare with potsherds recovered from the mounds and earthworks and with the complete vessel mentioned above. All are grit-tempered with geometric designs composed of simple cord impressions or straight incised lines predominating. The range of other artifacts found on this site is quite extensive; they are similar to the limited number found in the mounds and earthworks. They include finely worked snub-nosed scrapers, all made from flakes, with secondary work on one side only; notched and triangular arrow points; and several side scrapers, small knives, and flake knives, all of which reveal delicate secondary work. The larger knives are either triangular or oval and are crude, except for one specimen, which is a long curved blade of great beauty. Chalcedony is the predominant material employed for these smaller artifacts. The larger artifacts include one ungrooved hand ax, several pebble hammerstones, and one flat, chipped quartzite stone that may have been used for a digging tool or hoe. Bone tools include large fleshers, awls, and two broken harpoons. One pastime is suggested by a cut and drilled bone, probably used in the cup-and-pin game. Evidence of decora-

[2] Mr. Claude Crayston, a well-known farmer of the Glenora district, furnished the writer with data covering the buffalo pound. Mr. Crayston recalls seeing traces of it in his early youth, and his father, the late Joseph C. Crayston, frequently described the pound.

tion is found in mica fragments and bone beads. Excavations to date have been limited but thorough; the material reveals an interesting cross section of a fairly complex culture, and, when we add to the above-described material arrow points of native copper and obsidian, we get an outline of an archaeological picture which challenges considerable anthropological speculation. In concluding this portion of our remarks, it should be added that the mound pottery described by Montgomery (deep spiral groove from midbase to rim) has, so far, not been found.

### THE HILTON MOUNDS

In the northwest portion of the area, a few miles southwest of the village of Hilton, a second series of mounds is located. These are larger than the Rock Lake mounds and contain multiple burials with the skeletal material complete. The most important is the Sykes Mound (S.W. ¼ Sec. 15, T. 6 N., R. 16 W.). It is located on a high hill locally known as Medicine Hill, Signal Hill, etc.; but we have preferred to name it the Sykes Mound in honor of Mr. and Mrs. Alfred Sykes, the owners, whose permission to excavate was always readily given. This mound was partly excavated in 1933 and again in 1943 by a party from the Manitoba Museum Association. Excavation recovered in addition to the skeletal material mentioned above, a triangular projectile point, bone beads, a bone object that may have been used as a pottery marker or may have been part of a bone bangle, circular shell necklets, and shell pendants. The pendants are similar to those illustrated by Montgomery from the Westbourne Mound.[3] Copper was apparently used by this prehistoric group; although artifacts or ornaments of copper have not been found, copper stains are present on some of the bone. So far as the writer can learn, pottery of any kind is absent. Two miles west of the Sykes Mound is the McKay Mound. This was opened by the late Dr. D. A. Stewart of the Ninette Sanatorium and has been visited by members of the Manitoba Museum Association. The skeletal material and artifacts removed are similar to those from the Sykes Mound. Between the two main tumuli there are a number of smaller mounds, so far untouched. We know very little about the people who built the Hilton mounds. They appear to have differed culturally from the Rock Lake people, and they leave the impression of having been much more artistic. That they were a highly organized group seems evident from the amount of labor involved in building the Sykes and McKay mounds on the very crests of some of the highest elevations in the Tiger Hill country.

[3] Montgomery, 1908.

### THE LOWTON VILLAGE SITE

The most impressive of all the sites in the Rock and Pelican lake area is the Lowton Site (S.W. ¼ Sec. 26, T. 5 N., R. 16 W.). It is named in honor of Mr. Harry C. Lowton, the owner of the farm, and was discovered by Mr. Frank Brown of Glenora, who formerly lived in the Belmont district. The site covers an area of about twenty acres and, with the exception of some small groves of poplar, has been under cultivation for about three decades. During that time Frank Brown and other collectors have found several thousand artifacts of various types and a similar quantity of pottery fragments. The artifacts, particularly the projectile points and knives, display a high standard of workmanship. The pottery is almost equally distinguished.

The pottery is grit-tempered and ranges in color from very dark gray—almost black—to light buff. The bodies of the pots appear to have been roughened with coarse grass or a paddle. Some rims are plain, but the majority are decorated with cord or incised impressions. Outflaring rims are not numerous and there is some interior decoration. Immediately below the rim on many specimens there occurs a wide variety of cord impressions. Most of this decoration is geometric; two examples in the writers collection, however, have a rainbow cord design quite similar to that found on historic Hidatsa pottery. One specimen shows an interior slip; two others, crude effigies.

The majority of the projectile points are straight along the base, notched, and triangular; and in most cases they appear to have been ground along the base. A small percentage are leaf-shaped and notched, with a base similar to the predominating type. A third type is mainly leaf-shaped in outline and notched, with a concave, almost scroll-like, base. These latter points are beautiful examples of stone-age workmanship. Less than 2 per cent of all the projectile points from the site are unnotched triangular points. Snub-nosed scrapers are plentiful; some of them are flakes with second-

ary work on one side only, others have been flaked on both the upper and lower surfaces. Knives are present in a wide variety of types and show equal variation in quality of workmanship. The oval, triangular, and long narrow knives of chalcedony are excellent examples. Drills and graving tools are also present. The material used in the production of the smaller artifacts is rich and varied in color, covers almost the complete range of suitable stone, and includes obsidian. The bow and arrow was apparently the chief weapon used in securing food and in war, for authentic lance points are rare and the majority of the points, though broad at the base, are small.

The larger artifacts include grooved hammers, many of them quite small; pebble hammer stones; one ungrooved ax; four stone hoes; and a pick-like tool found a short distance from the site but presumed to be part of the village remains. Bone tools are scarce; in fact, only two authentic specimens have been found. One is an awl found by Mr. Lowton and now in the Ninette Sanitorium; the other, in the writer's collection, appears to be the broken end of a gouge-shaped flesher. The inhabitants smoked, but only fragments of what appear to have been tubular pipes have been found, most of them of catlinite. Fragments of clamshell are scattered over the site, and one complete clamshell scraper was found by the writer in May 1944. A carved piece of this material may have been used as a pottery marker. Further work in shell includes small ornament with incised lines representing a tree, a circular disk of marine shell now in the Manitoba Museum, and a partly broken circular gorget of marine shell similar to the one illustrated by Montgomery from a mound near Sourisford. There is no trace of habitations—they are presumed to have been of a perishable nature—and fortifications of any kind are apparently absent. The site is littered with broken bone, and flakes and chips of flint are plentiful. Burial sites of any kind have not been observed anywhere in the close vicinity.

## ANCIENT HUNTING PEOPLES

The ceramic horizon in our prehistoric story does not carry us very far back through the centuries. Six to eight hundred years would appear to be the limit of time involved. The presence of birch bark in most of the mounds is sufficient in itself to exclude any great antiquity. This leaves a vast period of time with little, if any, archaeological material on which to base even a surmised reconstruction. Antevs places the beginning of the Post-Glacial epoch in this area at about 9000 years ago. Doubtless sometime during the succeeding millennium ancient hunting people entered the district. Two Yuma-like points, another resembling the Brown's Valley type, and still others showing evidence of weathering suggest considerable age, but the data are meagre. Until further proof is found, it would seem safe to assume that any occupancy of the area by ancient hunters was occasional and perhaps not of long duration.

## CONCLUSIONS, SPECULATIONS AND SUGGESTIONS

Conclusions of any kind may prove unsafe so early in the unfolding of an archaeological picture. It would seem reasonable to assume, however, that the Rock Lake and Hilton mounds and the Lowton and Avery village sites are prehistoric. The lack of white contact material and the failure of La Verendrye, who passed so close in the autumn of 1738, to mention any occupancy of the area both fortify the assumption. The suggestion that the mounds were built by a Siouan people should receive consideration.

The writer suggests a Woodland affiliation for the Lowton site—its isolated location, its cord-marked, grit-tempered pottery, and its paucity of bone tools and shell artifacts prompting the speculation. Wintemberg classified the Belmont pottery (Lowton Site) as Mandan.[4] This writer doubts the validity of this position, and is inclined to believe that the cord-impressed pottery of the Mandan, Hidatsa, and Lowton Site people were all derived from Woodland aspects in the east. The Hilton mounds remain a mystery. The closest mound is four miles from the Lowton Site, which would appear to exclude any connection; yet their shell artifacts seem to indicate a Woodland background. In our opinion, the Rock Lake pottery is also Woodland. It is almost identical with Red River pottery from north of Winnipeg (Lockport), and appears to belong to Wilford's Red River aspect.[5] The answer to many prob-

[4] Wintemberg, 1942.

[5] Wilford, 1941; Fewkes, 1937.

lems surrounding our pottery-making, village-living, mound-building people will be found in the south and east, and comparison with known archaeological horizons south of the international boundary is clearly needed.

The suggestion made in Table 1 that our prehistoric sites were abandoned for climatic reasons has always seemed to the writer more reasonable than the supposition that whole tribes were exterminated by war. The dates given are from a tree-ring record for the state of Nebraska by Harry E. Weakly, climatic similarity in the great plains region being assumed.

The Rock Lake and Hilton mound people must have been highly organized groups. The building of mounds and earthworks with primitive tools demands organized government of some kind, for it required the help of many hands either by compulsion or cooperation. The burial mounds and the various traits revealed indicate a deep religious outlook, with perhaps a complex ritual and intricate ceremonialism.

There is nothing to indicate the method of transportation; it was before the day of the horse and if the dog played any part in the life of the people we have still to discover it. Types of habitation can only be guessed at, but it is likely they were made of perishable material. Traces of earth lodges, though diligently searched for, have not been found. The animal food of these prehistoric people is evident from the vast quantity of broken bone found on all the sites, and, at the Avery Site, ranges from the bison to smaller animals and birds and fish. Artifacts found on all the sites suggest a well developed skin-working industry; if other material was used for clothing and shelter, careful examination might reveal it. Careful excavation is required to establish what vegetable products, if any, were consumed. The presence of stone hoes at the Lowton Site and a mano and metate at the Avery Site suggest digging, gathering, grinding, and perhaps a limited agriculture. Clark Wissler has said, "In the New World it was observed that the geographical distributions of agriculture and pottery were fairly coincident"; how this rule applies to our Rock and Pelican lake sites is only one of the many intriguing problems awaiting solution. The deep impression is left that these mounds and pottery-laden sites represent the frontier struggle—the fading trace—of a culturally important people who, as they moved into the northern plains, were forced to become nomadic bison hunters and to forget the traditions and customs of a richer past.

TABLE I

SUGGESTED SEQUENCE OF CULTURES IN SOUTH-CENTRAL MANITOBA

| | | |
|---|---|---|
| 1750 A.D. Historic | Recent hunting people—Assiniboine, etc. | Siouan |
| 1670–1738 A.D. Proto-historic | The Assiniboine, a woodland and plains group, occupied the area around Lake Winnipeg. They supplied guides for La Verendrye for his journey to the Missouri. | Siouan |
| *circa* 1600 A.D. Prehistoric Red River Aspect | Lockport? Red River pottery. | Siouan ? |
| | Perhaps driven towards Lake Winnipeg in the drought periods of 1539–1564 or 1587–1605. | |
| *circa* 1500 A.D. Red River Aspect | Rock Lake mounds<br>Avery Village Site | Siouan ? |
| | Hilton mounds ? | |
| | Perhaps part of the wide spread dispersal of Siouan people out of the Ohio Valley. | |
| | Perhaps coming from the south and east and returning in the drought of 1439–1354. | |
| *circa* 1300 A.D. Woodland? | Lowton Site ? | ———? |
| *circa* 8000 B.C. Post-Glacial | Ancient hunting peoples—Folsom, Yuma, etc. | |

BIBLIOGRAPHY

ANTEVS, ERNST
1931. *Late-Glacial Correlation and Ice Recession in Manitoba.* Memoir 168 Geological Survey, Dept. of Mines, Ottawa.

BRYCE, GEORGE
1904. *Among the Mound Builders' Remains.* Transaction 66, The Historical and Scientific Society of Manitoba.

BUSHNELL, DAVID I., JR.
1934. *Tribal Migrations East of the Mississippi*. Smithsonian Miscellaneous Collections, Vol. 89, No. 12.
1940. "Virginia before Jamestown" in *Essays in Historical Anthropology*, Smithsonian Miscellaneous Collections, Vol. 100, pp. 125–158.

COUES, ELLIOTT
1897. *New Light on the Early History of the Great Northwest. Henry-Thompson Journals*. 3 Vols. New York, Francis P. Harper.

DOUGHTY, ARTHUR G., AND CHESTER MARTIN
1929. *The Kelsey Papers*. The Public Archives of Canada, Ottawa.

FEWKES, VLADIMIR J.
1937. "Aboriginal Potsherds from Red River, Manitoba." AMERICAN ANTIQUITY, Vol. 3, No. 2.

HAXO, HENRY E.
1941. "The Journal of La Verendrye, 1738–39." Translated and annotated. *North Dakota Historical Quarterly*, Vol. 8, No. 4.

JENNESS, DIAMOND
1934. *Indians of Canada*. National Museum of Canada, Ottawa.

MONTGOMERY, HENRY
1908. "Prehistoric Man in Manitoba and Saskatchewan." *American Anthropologist*, Vol. 10, No. 1.

ROBERTS, FRANK H. H., JR.
1938. "The Folsom Problem in American Archaeology." *Smithsonian Report*, 1938, pp. 531–546.
1940. "Developments in the Problem of the North American Paleo-Indian," in *Essays in Historical Anthropology*, Smithsonian Miscellaneous Collections, Vol. 100, pp. 51–116.

STRONG, WM. DUNCAN
1940. "From History to Prehistory in the Northern Great Plains," in *Essays in Historical Anthropology*, Smithsonian Miscellaneous Collections, Vol. 100, pp. 353–394.

SWANTON, JOHN R.
1923. "New Light on the Early History of the Siouan Peoples." *Journal of the Washington Academy of Sciences*, Vol. 13, No. 3.

WEDEL, WALDO R.
1938. *The Direct Historical Approach in Pawnee Archaeology*. Smithsonian Miscellaneous Collections, Vol. 97, No. 7.
1940. "Cultural Sequence in the Central Great Plains," in *Essays in Historical Anthropology*, Smithsonian Miscellaneous Collections, Vol. 100, pp. 291–352.
1941. *Environment and Native Subsistence Economies in the Central Great Plains*. Smithsonian Miscellaneous Collections, Vol. 101, No. 3.

WILFORD, L. A.
1941. "A Tentative Classification of the Prehistoric Cultures of Minnesota." AMERICAN ANTIQUITY, Vol. 6, No. 3.

WILL, GEORGE F., AND H. J. SPINDEN
1906. *The Mandans*. Peabody Museum of American Archaeology and Ethnology, Harvard University, Papers, Vol. 3, No. 4.

WINTEMBERG, W. J.
1942. "The Geographical Distribution of Aboriginal Pottery in Canada." AMERICAN ANTIQUITY, Vol. 8, No. 2.

WISSLER, CLARK
1929. *An Introduction to Social Anthropology*. Henry Holt and Co.
1938. *The American Indian*. 3rd ed. Oxford University Press.

WORMINGTON, H. M.
1944. *Ancient Man in North America*. The Colorado Museum of Natural History, Denver, Colorado.

Baldur, Manitoba
November, 1944

# TOOL-MAKING AT THE WESTFIELD STEATITE QUARRY

WILLIAM S. FOWLER

DURING the past several years, a steatite quarry in Westfield, Massachusetts, was excavated by the Connecticut Valley Chapter of the Massachusetts Archaeological Society under the writer's direction. This quarry is one of two known steatite deposits in this part of the Connecticut Valley worked by the aborigines, the other one being located at North Wilbraham. The Westfield steatite is finely grained with a high percentage of talc, a firm but soft stone, easily shaped into eating utensils and other articles. Only a small part of the original quarry has escaped damage from recent serpentine-marble quarrying. Enough has been left to provide factual evidence of the kind of steatite products and quarry tools that were made at this site.

Of particular interest is a quartz-tool quarry only a hundred yards away from the steatite deposit. Here was discovered an unusual display of specialized tools, made of crystalline white quartz from this deposit. Types represented at this site seem more numerous than at other steatite excavations, many of which were reported in the late nineteenth century. W. H. Holmes, who made most of the reports at that time, deals largely with the tool traits of the Potomac-Chesapeake area. He says that the tools as a rule are quite rude, approaching a paleolithic type, and were derived from quartz veins and boulder beds in the vicinity. He concludes by observing that quartz objects shaped by percussion-flaking are all thick and angular, weighing a pound or more, with one end pointed and the other rounded as if to be held in the hand for striking. All the better-worked tools were, according to Holmes, made of selected stone materials at camp sites away from the quarry. All the tools illustrated and described by Holmes are picks which have either a pointed or chisel-like blade and are generally large; the length of only a few is as little as three inches.[1]

In contrast to the Potomac tools, those of the Westfield site exhibit highly specialized traits, representing a degree of skill in tool-making rarely found in stone tools from other steatite quarries. Besides classifying these tools, this paper will suggest methods of manufacture and probable function of the implements in shaping and finishing steatite.

Tool-making has played an important role in the development of man. When the anthropoid ape used a stone with which to kill, he used it as an implement. However, when eolithic man used one stone as a tool with which to flake another, and thus to shape it into a more effective weapon, he raised himself above the status of ape. From the beginning, manufacture has first required primary tools with which to produce the finished articles. Indeed, many tools of our modern factories have a striking resemblance to those of the stone age and are obviously the refinement of primitive designs. A large store of finished stone tools in close association with the important steatite industry at once assumes importance.

The specialized traits of the Westfield tools and the regularity with which various shapes occurred impressed the writer with the need of further investigation to determine the probable use for each. So he fashioned drinking cups and other articles out of steatite, using nothing but stone tools found at the quarry. Care was taken to test the different tools in order to learn the kind of work each could do best. In this way, the probable functions of different types became manifest and served as a guide in the final classification. While performing these experiments, it was discovered that the steatite contained minute tourmaline crystals, many visible only under a strong glass, in greater or lesser amounts. As a result, it has been possible to determine which of the steatite sherds found on various camp sites in the Connecticut Valley are from the Westfield quarry, as tourmaline crystals have only been found in steatite from that site.

Serpentine-marble and quartz deposits in the vicinity of the quarry supplied material for most of the tools made on the site. "Serpentine-marble" is a local term which may not correctly describe the stone, actually a fused mixture of several different hard stones interspersed with serpentine.[2] A few basalt picks were found. It seems likely that such tools were made at the home camps and transported to the quarry, at times, many miles, as the nearest basalt deposit

[1] Holmes, 1897, pp. 120–123.

[2] Merrill, 1889, p. 365.

is about ten miles distant. However, most tools were made of the two local stones already referred to. Of the two, quartz seemed to be preferred, as it was used for all those forms made of serpentine-marble, as well as for other forms. Therefore, this report will confine itself to a discussion of the quartz-tool industry, as being all-inclusive, especially from a typological standpoint.

About a hundred yards from the steatite deposit stands a group of boulders with an exposed outcropping of crystalline quartz. It was here that a tool industry was carried on, with a probable division of labor and a concentration of effort seemingly absent from other steatite workings so far reported. An area of about ninety square feet, directly in front of the quartz deposit, was excavated. Tailings of quartz dust extended down to a depth of from one to two feet above the bottom of the workings. Scattered throughout the deposit were found about five hundred rechipped artifacts, exclusive of hammerstones. Their tool-like shapes and their close proximity to the steatite workshop and quarry suggest that they were intended for steatite-working tools. Some were partly finished, others were fractured, with some part missing, but a great many were completely finished and perfect. However, no specimen showed worn facets on any surface, as this was a quarry and workshop where tools were made but not put into actual use in shaping steatite. Nevertheless, wear was discernible on cutting edges of like tools found at the steatite workshop. Over one hundred completed specimens were taken from three caches located in deep, excavated crevices in the quartz boulder. This concentration of implements stored in finished condition, exhibiting all types that were evetnually segregated, confirms the postulated existence of highly specialized tools. The careful workmanship of most of these cache specimens is convincing evidence that they were not fortuitous spalls or flakes. As a matter of fact, the more or less crystalline character of the quartz prevented the formation of conchoidal spalls and flakes of the proper thickness and size, and with enough tensile strength to stand the strain of steatite working. Each tool, of necessity, had to be shaped by secondary chipping into correct proportions in order to stand the strain of the particular work it was to perform.

Other caches may exist on sides of the boulder not as yet excavated; the three that were opened reveal a tool-making workmanship rarely if ever found before in workshops of the steatite industry. Cache 1 held seven tools of medium size representing three forms afterward classified as types. Cache 2 contained fourteen of the smallest end-picks, from 1 to 1½ inches in length. Cache 3, the most surprising find of all, was located in the deepest crevice with an oblong block of worked quartz, weighing about thirty pounds, fitted tightly in place on top of the stored tools. In fact, it made such close contact with the side of the boulder that the cache was overlooked for some time. When it was finally opened, a total of ninety tools, representing six different forms, were taken out. There was also a slender drill, the only one found in the entire excavation.

The primitive method of quarrying tool blanks and extracting them from the boulder apparently involved percussion. Innumerable picks, weighing three pounds or more and made of quartz-feldspar, lay all about, some so worn that they had apparently become useless. What appear to have been the last workings were discovered where there was a pecked-out, squared-off area about 4 by 6 inches. This was on a sloping surface of the vein, near breaks where other blocks had been removed, leaving indications of the probable method of work. It seems likely that when pecking from the face of the vein had produced grooves that were deep enough, heavy quarry picks were brought into play, striking horizontally at the end. This ultimately split the block from the seam, and then the process was repeated. Blocks which had been detached in this way were then reduced to smaller pieces and shaped into tools with hammerstones of various sizes. Larger hammerstones were quite generally made of a quartz-feldspar material like that of the quarry picks, from a nearby vein. However, the smaller ones were always of pure quartz. It seems probable that tools were shaped by percussion flaking, as no evidence of pressure flaking was found. Supporting evidence was found in the presence of several quartz hammers of a small size in two of the caches. In cache 2, together with the small end-picks found there, were a few extremely small hammers weighing only a fraction of an ounce apiece. They were probably used in making the smallest tools. Apparently the weight of the hammer had much to do with the process of flaking; as the size of the tool

became less, so did the weight of the hammer. Hammerstones were used, not only to shape tools, but also to remove sharp edges and points from their basal ends, in order to provide a suitable grip that would not cut the hand. On some specimens, this has been carried to a point where a well-defined handle is evident. It should be kept in mind that all of the tools, with the exception of a few end-picks, are generally small.

No stratification was noticeable in the accumulation of quartz dust from the workings. However, it is assumed that artifacts near the top were more recent than those from the bottom of the excavation. Apparently work was begun by removing the free quartz from the side of the boulder. After some time, continuous work at this point evidently displaced enough quartz to form a deep crevice, later used as a store house for tools, at the foot of the boulder. The last workings were probably those already referred to, where unfinished work was apparent. This was on a lower quartz deposit in front of the boulder, where the vein shelved off underground.

The tools as a whole may be divided into eight different types, each apparently having a different function in the manufacture of steatite cups, medium-sized bowls, and a limited number of pipes and paint cups. Each type of tool has a distinct shape, and its traits appear with only slight variation in all the specimens of the group. In the classification that follows, names have been chosen to suggest as closely as possible the probable functions and significant traits of each type. It is of interest to note that, in most cases, a resemblance to certain steel tools of today is evident. All type specimens and special tools illustrated in Figure 9 are shown in positions corresponding to those in which they were probably held in the hand. There is no evidence to show that any of them were hafted, and it is the writer's belief that they were intended for use without handles of wood or bone. While both medium and small sizes are present in most types, considerations of space make it possible to illustrate only the smaller specimens in every group.

*Rocker Abraders* (Fig. 9*a*). This group of tools consists of two specimens, which have a triangular shape. They measure 2½ inches along two sides; the third side is convex, measuring 3¼–4½ inches around its perimeter. Wear on the convex surface and at right angles to the faces of one specimen found at the steatite workshop apparently results from abrasion.

Abrasion was apparently a common method of working, as the collection includes stones of all shapes with worn surfaces evidently used as abraders. However, the rocker type illustrated, while probably used for abrading, had certain definite functions. It is likely that it was used to assist in hollowing all but the smaller bowls by abrasion, produced by using the rocker surface with an oscillating motion, after excavation had been carried part way with picks. The type specimen came from cache 1. The other specimen of this type is of about the same size. Quite obviously this style of abrader was designed for use in making the larger bowls.

*Scraping Chisels* (Fig. 9*b*). This group of tools consists of twelve specimens, ranging in length from 1 to 2½ inches and in width from ½ to ¾ inch. Their thickness averages about ½ inch. At one end there is a 45 degree bevel from one face to a sharp chisel edge at the opposite face. With this edge, the work of scraping quite obviously was executed. For an inch, the opposite end of about half the specimens has been carefully chipped to a diameter of approximately ½ inch, with more or less rounded sides, as if to produce a handle. It appears that this chisel-shaped tool was used in scraping the interior of vessels to reduce the thickness of walls and bottom after they had been roughed out with picks or other tools.

These ingenious and well-made tools have a sharp cutting edge and in shape resemble a modern chisel.

The type specimen was one of the ninety tools from cache 3. It has a well-made handle with rounded sides and a sharp chisel blade with a fairly steep pitch. While most specimens of this type have a similar shape, on a few the pitch of the blade extends from one end to the other, producing a wedge-shaped block with the cutting edge at the apex. This is no doubt a variation in style only, as these tools were probably used for the same work. They have proved most effective when used experimentally as scrapers; hence their name.

*Shavers* (Fig. 9*c*). This group of tools consists of seven specimens. In length they range from 1 to 2¼ inches; they are made from pieces having a thickness of ½–¾ inch and a width of ½–2½ inches. One edge only is retouched and is intentionally straight with one corner rounded. The flaking of this edge, which is all one way from one face, forms a razor-sharp edge with no serrations.

It seems probable that this straight edge was used for scraping the inner surface of the walls of nearly completed bowls to reduce their thickness still further. By actual test, the author found such work best suited for this tool, which performed the operation in a remarkably short time. Obviously, such work would probably have taken place during the final finishing, after other tools had completed the excavation. Shavers would have enabled the worker to produce thin, even walls without much danger of fracture. The determining trait is a more or less

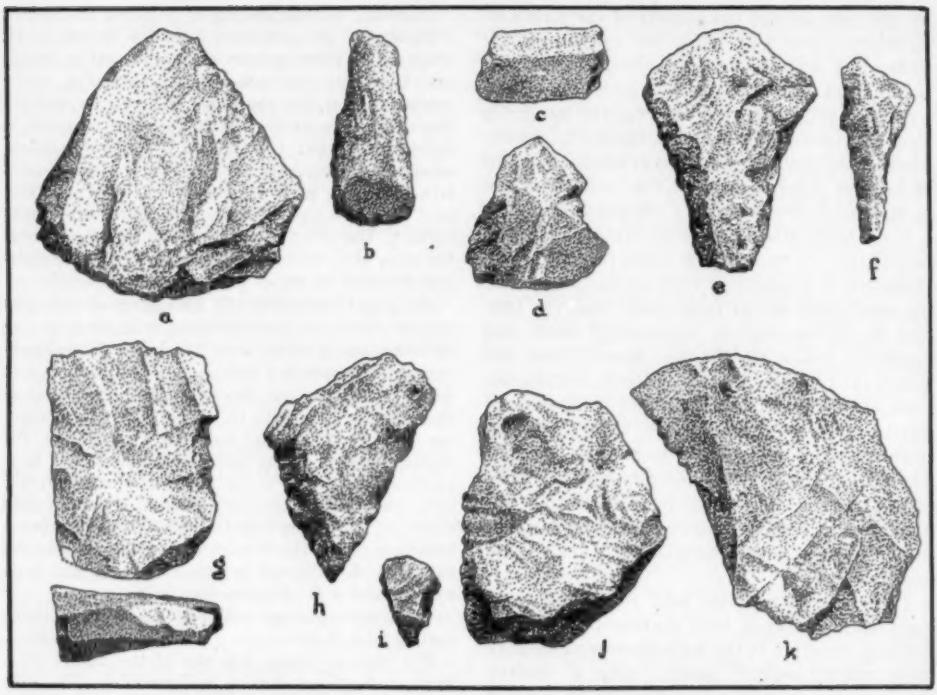



FIG. 9.—Specialized tools of crystalline quartz from Westfield steatite quarry. ⅔ natural size.

straight retouched cutting edge of razor sharpness, with one end rounded. No doubt these tools supplemented scraping chisels. They are so made that a large part of the vessel's inside wall can be reached by the blade. At the same time, the rounded end neatly cuts out the curve at the foot of the wall and thereby avoids an unwanted groove which would result if the end of the blade were not rounded. This trait, insignificant as it may seem, appears to suggest an adherence to discriminating details of manufacture which were far removed from a casual or slip-shop industry. The wide range in size indicates that these tools were used on small vessels as well as on large ones.

*Abrading Scrapers* (Fig. 9*d*). This group consists of six triangular or oval specimens. The length of the blade measures from 1½ to 3½ inches; the thickness, from ½ to 1½ inches; and the width, from 1½ to 2½ inches. One edge is convex and is roughly flaked. The base or grip quite frequently has side notches, apparently for holding leather thongs with which to make a handle. The suggested use of these tools partly as scraper and partly as abrader is described farther on. Unmistakable signs of wear on the convex chipped edge of many similar specimens of serpentine-marble from the steatite workshop seem to indicate clearly that abrading and cutting were performed by this edge.

The type specimen illustrates the distinguishing traits of most tools in this group. In the case of the smaller-sized tools, two notches on either side of the base, previously referred to, may have been made only to serve as a finger grip. As the name suggests, the tool is shaped like a scraper, but its roughly chipped cutting edge suggests that it was probably worked back and forth like a saw, hence the modifier "abrading." While excavating a steatite quarry in Worcester, Massachusetts, Bullen[3] found marks on certain steatite sherds in association with tools similar to these abrading scrapers. He concluded that they had been made by this tool, operated with a sawing motion. The writer believes that, as this discovery suggests, the abrading scraper was used to help in making the excavation in the bowl, after the picks had opened a preliminary cavity in the face of the pot-form. It therefore seems likely that abrading scrapers were designed to supplement picks through rubbing, thus lessening the danger of breakage. Actually, their function would resemble that of the rocker abrader, except that the narrower cutting surface would cut away by grooving, whereas the rocker type, with its broader working surface, would wear away by abrasion.

[3] Bullen, 1940.

*Pipe Reamers* (Fig. 9*e*). There are six specimens in this group of implements. Their length varies from 1½ to 2¼ inches, their width at the base, from 1¼ to 1½ inches; and the thickness of all is about ½ inch. All but one have sloping sides that converge to a cutting edge ¾–1 inch wide, while the corners of the somewhat enlarged base have been rounded so that it could have been used as a handle. By twisting these tools back and forth against a piece of steatite, a hole may be cut with converging sides and with proportions similar to those of the interior of a pipe bowl.

The illustrated shape seems to be the preferred style for this group of pipe reamers or large drills. A glance at the sloping sides of this tool will show how well it will fit the inner proportions of a pipe bowl. The base is rounded to form an acceptable handle. There are a few irregular shapes, one of which is that of an oblong block with nearly parallel sides. The cutting is done by a sharp edge extending diagonally across one butt end of the block. This reamer, unlike the standard type, cuts a hole with perpendicular sides, and may therefore have been used to excavate the larger pipe bowls.

*Drills* (Fig. 9*f*). The illustrated specimen is the only drill of narrow proportions that was found. It is worth showing to demonstrate the fine and precise work that is possible by percussion flaking, probably the only kind of flaking employed at the quarry. This specimen is from the next to the lowest layer of tools in cache 3. No doubt other similar drills were made and perhaps removed to habitation sites, where the ultimate finishing of steatite vessels probably took place. Since only one specimen was found, no type could be established.

*Bits* (Fig. 9*g*). It is not possible to recognize this unusual tool as a type, either, for it is the only specimen of its kind that was recovered. It came from the top layer of the quarry dust and lay just under a thin deposit of moss. Therefore, it may be considered a manifestation of the last occupation of the site. As is clearly illustrated by the front view, the blade of this tool is more or less flat, with a thickness of about ½ inch, and has a convex cutting edge. Contrary to the usual practice of shaping, however, this edge is beveled by retouching one side halfway to the apex of the convexity and then retouching the other side, producing a reverse bevel. The end view clearly shows this unusual reverse bevel, with traits which are probably as similar to those of a steel bit as is possible in stone. The notch in one side forms a convenient finger hold; by twisting the tool counter-clockwise, when the beveled convex end of the blade is applied to a block of steatite, a hole 1½ inches in diameter, the full width of the bit, is rapidly produced. As the specimen was found in situ at the top of the quarry tailings, it seems probable that this tool manifests a signal accomplishment as a result of a long period of tool development from the time of the opening of the quarry. It would have made an excellent tool for hollowing bowls of small and medium-sized vessels. One is left to ponder what effect such a type of tool would have had on the steatite industry had it been developed at the start rather than at the termination of operations.

*End Picks* (Fig. 9*h*, *i*). This group of tools consists of by far the greatest number of specimens, about 200 in all. For lack of space, only two small sizes of this common tool are shown. Actually, there are five sizes in all, varying proportionally in weight and length from those weighing a fraction of an ounce, which are 1 inch long, to those weighing 1¼ pounds and measuring 6 inches overall. Because of the large quantity of these tools, it seems obvious that the early workmen were dependent upon them to a considerable extent. While resembling closely quarry picks reported from other localities, the one outstanding difference seems to lie in the quantity of extremely small ones, measuring from 1 to 1½ inches in length, which have not appeared in other quarries. Figure 9*i* shows one of this group, of which there were fourteen in cache 2. A series of tests of the various sizes in the actual making of steatite bowls, it seems to indicate that the weight played a big part in determining which size was to be used for any given work. It was found that the heavier the pick the greater the danger of splitting the steatite along one of its many seams. From this observation has developed the belief that the smaller sizes were intended for use in shaping smaller vessels, such as drinking cups, spoons, and paint cups. Bases of most end-picks are rounded, with all sharp edges dulled to form a handle, and this has been used as a trait indicating whether a specimen is finished or incomplete. The pick point is formed at the end opposite the handle, with sides converging from the base. This type of pick must be held point down in the hand so that it develops a more or less perpendicular thrust when at work and its full weight takes effect. Hence the need of a wide range in weights for work on vessels of different sizes. The inescapable conclusion, after examining actual semifinished steatite vessels from workshops of the area, seems to be that end-picks were used to perform the preliminary shaping of most vessels, as well as to excavate the bowl until the walls could be scraped with other tools. Therefore, this type of pick should be considered a roughing rather than a finishing tool.

*Corner Picks* (Fig. 9*k*). This class of implement consists of four specimens, although many similar tools, made of serpentine-marble, were present in the steatite workshop. They range in length from 3 to 4 inches and in width from 1½ to 2 inches. Their thickness varies from ¾ to 1¼ inches. They have two more or less parallel faces. As the illustration shows, their shape is that of an oblong block, of which one or both ends have been reduced in thickness by percussion flaking. Pick points are formed at one or more corners of the block. Generally, however, only one corner is pointed, the others having been knocked off and rounded. The pointed corner then becomes the point of the pick.

While this type of pick cannot be said to have had

the popularity of the end-pick because of its lesser numbers, it probably had its place as a roughing tool. Obviously, this tool, in order to be used at all, must be held in the hand with the pick point turning up. The action of the wrist is thus brought into play when the pick is at work. In this way the thrust is softened, and there is less chance of fracturing the vessel than in the case of the end-pick with its perpendicular thrust. Therefore, there is less need for a wide diversification of weights and sizes, which may account for the sameness of all specimens in this group.

*Hand Gouges* (Fig. 9*j*). This group of tools contains thirteen specimens. Their length and width varies from 1 to 2½ inches, and their thickness from ¼ to ¾ inches. The retouched portion is characterized by a sharply convex, keen-edged gouge blade, with definite traits showing the implement was intended for pressure gouging rather than scraping. Although the rest of the stone block is flaked into a shape which may be conveniently held in the hand, the cutting of the steatite was apparently accomplished entirely by the rounded gouge-shaped end, which always projects beyond one edge of the block. These gouge-shaped projections vary in size in relation to the overall size of the stone blocks from which they are made.

As shown by the type specimen, the blade is rounded and shaped like a scoop chisel of the present day. All of these tools have handle bases with rounded edges, clearly indicating they were intended to be held in the hand without hafting. The cutting edge is generally chipped from both sides, although in a few instances the chips come from one face only to create an edge closely resembling that of a skin scraper. In style, there are a few variations in the handle, but in every case the gouge blade, the only important determining trait, projects from one end in a sharp-edged convex scoop. Because of the wide variation in size—from 1 to 2½ inches in length—it seems evident that they were an indispensable tool, designed for use on all sizes of vessels. In actual use it was found that the tool performed best as a gouge in digging out the inside end walls of the bowl following the preliminary roughing out of the excavation with end or corner picks. Evidently the workmen were somewhat concerned over this phase of the work, judging from the frequency with which the gouge appears, and depended upon it to a large extent. Specimens were present throughout the tailings as well as in caches 1 and 3. Although the use to which this tool was put is similar to that of the scraping chisel, it is possible that the larger ones at least were used to dig out, by gouging, larger quantities of steatite than is possible with tools that are intended for scraping only.

## Summary and Conclusions

Among the traits manifest in the Westfield tool industry, there are certain ones which are more in evidence and give rise to the postulation that tool-making at this site was an independent activity, apart from steatite-working.

Of the eight different forms of tools, there is not one that does not follow a clearly defined design. In the period during which this industry flourished, these distinct forms apparently had become established and may be considered an important contribution to the cultural development of the Connecticut Valley area. While to the casual observer the tools may seem to be crudely shaped and little better than spalls, by the more searching eye they are seen to have been shaped by means of secondary chipping. By actual test, it was found impossible to make better tools by percussion flaking from the quartz of this deposit. In fact, it was difficult to approach the quality of work displayed by the primitive specimens. It should be remembered that the aboriginal workmen of the quarry were not supermen, but just plain human beings, and that they were probably unable to do a much better job of shaping quartz than anyone today. The more important observation, it would seem to the writer, is that these primitive workmen made a big advance when they conceived the idea of making specialized tools to facilitate their work. Furthermore, credit must be given these early people for designing tools which proved so useful that their shapes have persisted, with quite evident counterparts being found in modern tools of this machine age. Such a marked degree of precision tooling would probably have been impossible, or at best imperfectly accomplished, had the work been in the hands of any worker who happened to go to the steatite deposit for the purpose of obtaining eating utensils.

Again, it is clear that, due to the skill required in flaking quartz, a stone that admittedly is difficult to work, inexperience would not have been likely to develop such uniformity in tool designs.

Still another trait that seems to have a close association with those just mentioned is the way in which a stock of tools was developed and stored in well-defined caches in rock crevices. In at least one of these, cache 3, the tools were so carefully packed away that it was frequently difficult to dislodge them without causing breakage. This could not have been the work of any individual who came here only infrequently to flake out a few tools as he needed them. More than likely, it was the work of

trained tool-makers who were building up a surplus of tools in their leisure moments.

It should be mentioned that two discoveries were of possible chronological significance. The first was the finding of the basal portion of a two-inch triangular projectile point, quite obviously fractured in the process of manufacture. While such points are usually assigned to a later period than that of the steatite industry, there is good evidence to show that triangular points of this shape were being used at a much earlier date in this area. Therefore, the concept of a continued use of this preferred style of point from an ancient period seems justified, in the light of present evidence.

Another find that bears upon the question of age was that of a specialized hoe made of quartzite and found at the steatite quarry, only a hundred yards away from the tool quarry. This artifact was apparently made of stone, from an outcropping in some nearby ledge, as one side showed evidence of having been a part of the seam in a vein of quartzite. Apparently the artifact had been flaked into shape at the quarry, and it was probably used in loosening quarry tailings for removal. It displayed rather crude workmanship, but in general followed closely the distinguishing traits of the triangular pointed-blade hoe appearing on many camp sites. When found in association with habitation sites, this hoe is presumed to have been used for agricultural purposes, thus having a fairly recent place in the chronology of this area. The quarry hoe, as well as all others of this type, may be easily lashed to the end of a straight stick, the blade having a sharp tilt from a thick flat base to which the stick is attached. When so hafted, the hoe becomes an efficient implement. However, the close association with hoes of habitation sites would not necessarily place the steatite industry in the late agricultural period. Possibly the more developed agricultural hoe was derived from a cruder prototype similar to the quarry hoe.

As sherds of Westfield steatite are found distributed over many camp sites in the Connecticut Valley in association with material from other steatite quarries, it may be concluded that all such quarries were contemporaneous. However, as steatite bowls are never associated with pottery vessels in graves excavated so far, it is probable that one industry preceded the other. Furthermore, since the use of pottery is mentioned in historical accounts of early contacts with the Indians, the assumption that the steatite industry developed during an age that was preceramic and preagricultural seems justified.

Finally, it is worth noting that only a few of the small finishing tools from the tool works were present in the steatite quarry tailings. What would account for this surprising paucity is not entirely clear. Several reasons suggest themselves, but the one that seems to the writer to fit the situation best is this. As no finished or semifinished bowls, fragmentary or otherwise—except one sherd—were found at the steatite workings, it seems probable that much of the final work of shaping was done at distant camp sites to which the roughed-out vessels had been taken. If this was the case, there would have been more need of the finishing tools, including many of the smaller picks, at the camps. The small size of these tools would also have contributed to such a removal to habitation sites. However, to detect such small nondescript artifacts on camp sites is quite difficult until one has studied them at their source in association with other material showing the reason for their manufacture. Therefore, much importance seems connected with the tool-making industry at Westfield, and its value for comparative study should not be underestimated.

## BIBLIOGRAPHY

BULLEN, RIPLEY P.
1940. "The Dolly Bond Steatite Quarry." *Bulletin of the Massachusetts Archaeological Society*, Vol. 4, No. 1. Boston.

HOLMES, W. H.
1897. "Stone Implements of the Potomac Chesapeake Tidewater Province." *Bureau of American Ethnology, 15th Annual Report.*

MERRILL, GEORGE P.
1889. "The Collection of Building and Ornamental Stones in the U. S. National Museum: a Hand-Book and Catalogue." *Annual Report of the Board of Regents of the Smithsonian Institution for the Year Ending June 30, 1886*, Part II, pp. 277–648.

Holyoke, Massachusetts
November, 1944

# PRELIMINARY REPORT ON THE DISCOVERY OF SURFACE SHERDS ON MONO ISLAND, TREASURY GROUP, SOLOMON ISLANDS

Lt. (j.g.) Bertram S. Kraus

THE ONLY inhabited native village, Ba-li-ha-i, in the Treasury group is on Mono Island. Although only six months old, it consists of thirty-one dwellings, two open-air churches, and 165 people who make up the native population of Treasury. Formerly, the chief village was situated among the coconut groves on the protected southern shore of Mono Island, across the channel from Sterling Island, a coral atoll. Here the villagers enjoyed the excellent fishing and gathered and traded coconuts. When the Japanese landed there the natives fled to the caves in the cliffs bordering the open sea. There they lived a miserable existence until the Allied forces landed and exterminated the Japanese. Released from their cave hideouts, they decided the most undisturbed location for them, in view of the feverish military activity along the coasts, would be in the interior. Therefore they selected, for their site a ridge a mile and a half inland from the eastern beach of Mono. This choice gives them comparative isolation but precludes one of their chief occupations—that of fishing. In order to supplement the food supply that nature formerly dumped into their laps, they have taken up gardening. The village is now completely self-sustaining, raising taro, corn, yams, and a sort of cabbage, and gathering breadfruit and bananas.

On one of my first visits to Ba-li-ha-i I noticed a single potsherd lying on the hard-packed ground between two rows of houses. Upon inquiry, a native led me to a house where the sole complete pottery vessel in the village was to be found. Further inquiry brought out the information that the potter, a woman, was now dead and that no one now lived who knew the potter's art. The surviving pot, when I first examined it, had never been used—at least in contact with fire. On a later visit, I again examined it and found it had been used on a fire for cooking. Since there were no lugs or handles and the bottom half was soot-stained, it had evidently been placed directly on the fire. I observed no other sherds lying around in the village itself.

A subsequent visit and interrogation elicited the information that there had been numerous clay pots in their former village on the beach, but that the Japanese had "broken" them all. In their hasty retreat to the caves, only one pot was preserved—the one I had seen. Despite all offers of food and tobacco, the owners would not part with it, although no reason was offered.

One late afternoon, while returning to the coast from Ba-li-ha-i with my three young native guides, I happened to notice a handful of sherds lying imbedded in the black muddy earth of the jungle trail. Close examination revealed that the surface, which had been denuded of its green vegetal covering by the passing of numerous parties of natives and jungle patrols, was liberally sprinkled with sherds for a distance of two or three hundred yards down the trail. In a few minutes my boys and I had picked up 126 sherds, which are described below.

It seems rather obvious that the occurrence of these sherds in the midst of the jungle, brought to light only by the churning of the muddy jungle floor by hundreds of feet, marks a site of some kind—whether village, burial ground, or former pottery workshop can be determined only by test excavation.

The sherds are numbered from 1 to 124 at random. A few traits are common to them all. Their color ranges from gray to red with all intermediate shades represented. The great majority of the sherds are well baked and very hard. The collection represents very definitely a strong utility ware. Those shapes that can be derived from the few shoulder and rim sherds are simple and practical. Decoration is always questionable, but, if its presence is to be admitted in some cases, it obviously is of the crudest type. Almost all the sherds preserve on their inner surfaces the marks of the thumbs of the makers. The pottery was not wheel-made but evidently built up out of the mass, probably inside a basket mold. There is nothing that can be construed as a handle or lug, nor anything that suggests the use of extraneous devices or decorative effects.

Small as is this initial collection, two major types can readily be distinguished. They are differentiated chiefly on the basis of color and texture. A larger collection will doubtless enlarge the number of diacritical traits. Twenty-four sherds fall into Group I, twenty-nine into Group II; the remainder seem to represent

a number of subtypes of either group. Here again, a much larger sampling will either bear out the major groupings and reveal subtypes or may add new major groups.

Group I shows a greater range of variation in many respects within itself than does Group II. In fact, all those sherds placed in Group II can be described generally, as variation among them is practically nil. Both exterior and interior surfaces of sherds in Group II are reddish-brown. The ware is quite hard, but not as hard as that of Group I. All the sherds of this group are very gritty to the touch, since the tempering medium consists of an abundance of coral, shell, and silica particles. The inner surfaces are all fairly smooth and generally bear thumb impressions, but no other markings. The outer surfaces are occasionally roughened with the impressions of grass and reeds. The thickness of these sherds runs from 1 to 2 cm. with very few less than 1 cm. in thickness.

Group I represents a better-made, more utile ware than does Group II. It is predominantly gray in color with occasional blending off into a grayish orange. It is a very hard ware, almost stonelike in some cases, with traces of lamination in the clay itself, resembling shale. The lack of visible tempering material heightens the stone-like impression. The sherds of Group I have smoother surfaces than the others. Otherwise there is, comparatively speaking, such a wide range of variation in the group that the best procedure seems to be to describe individually the nineteen sherds comprising it.

The seventy-three remaining sherds can, for the sake of convenience only, be considered together as Group III. They do not, as said previously, represent either a major type or even a single subtype. They are in some respects midway between Groups I and II. They have neither gritty nor altogether smooth surfaces. In thickness they range from $\frac{1}{2}$ to $2\frac{1}{4}$ cm. The color is predominantly reddish-brown, but some are gray. Inner surfaces are always smooth, outer surfaces often reed- or grass-roughened. Here we find the thinnest ware in the collection. Seven sherds of Group III merit individual description (see below).

## DESCRIPTION OF INDIVIDUAL SHERDS BY GROUPS

A short description of each of the twenty-four sherds of Group I follows.

#23. The largest sherd of the collection, probably representing one-third of the whole pot, including half the base. The latter is 3 cm. thick and the side walls taper off to $1\frac{1}{4}$ cm. in thickness. Both surfaces have been smoothed, the inner surface of the base clearly showing the manner of construction. The pot was built up out of the mass by finger modeling, the thumb impressions showing up clearly on the inner surface. The clay seems laminated and has been overburnt until it is light reddish-brown in color. This sherd was evidently part of a plain, round-bottomed cooking pot. The outer surface shows no fire blackening, but the inner surface of the base is darkened with food stains. There is no visible tempering.

#4. Part of the side wall of a vessel. Has the same texture as #23 but is not as overburnt. It also has thumb impressions on the inner surface. Both surfaces are smoothed. The outer surface bears paddle marks of recurrent geometric design. The walls are 1 cm. in thickness.

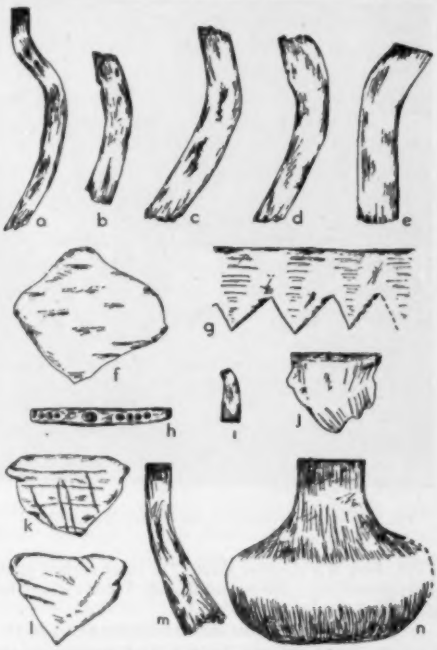



FIG. 10.—Sherds from Mono Island, Treasury group. *a*, sherd #1; *b*, sherd #19; *c*, sherd #8; *d*, sherd #14; *e*, sherd #75; *f*, sherd #35; *g*, sherd #16; *h–j*, sherd #24; *k*, *l*, sherd #44; *m*, *n*, sherd #12.

#11. Part of the side wall of a vessel. Texture is the same as the two previous sherds. Color is gray, the clay not having been burnt as thoroughly as in #23 and #4. The outer surface bears traces of reed impressions and two corners rereveal paddle marks.

#5. Similar to #11, but the outer surface is completely covered with reed impressions.

#1. Part of the shoulder and neck of a pot. Both surfaces are smoothed, with no markings or decorations. Probably there was an outward flaring rim. The clay is light reddish-gray and is laminated in appearance. No visible tempering except for tiny pieces of coral. The shoulder and neck curves were formed by thumb modeling (Fig. 10*a*).

#7. Small section of a side wall, probably of a bowl. The texture and color is similar to #11. Thickness is 1 to 1¼ cm. There is a very slightly indented channel, 2 cm. wide, running across the outer surface. Both surfaces are smoothed, the channel being somewhat smoother than the rest of the surface.

#12. Rim sherd of a jar with a restricted mouth. Color is gray, texture is the same as that of #7. The rim is square in cross section, and the walls become progressively thicker from the rim downwards. There are no markings of any kind, both surfaces being smoothed (Fig. 10*m*, *n*).

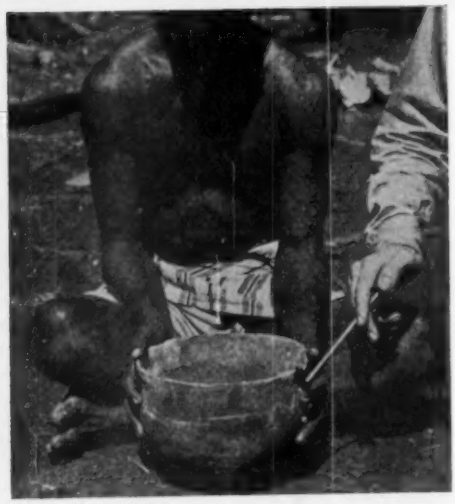


FIG. 11.—Pottery vessel in Ba-li-ha-i, Mono Island.

#19. Part of a shoulder sherd. The outer surface shows reed impressions. Color is reddish-gray. Texture is like that of #7 (Fig. 10*b*).

#8. Like #19, part of the shoulder section of a pot. Has the same texture and color. Outer surface also has reed impressions (Fig. 10*c*).

#14. Also a shoulder sherd, similar in most respects to #19 and #8, but with slightly thicker walls (Fig. 10*d*).

#3. Same type as #5, with the same degree of curvature.

#10. Brownish-gray wall-sherd, smooth surface. Texture Texture is quite brittle. Clay is highly baked and reddish in color. There is no visible tempering. The outer surface has the impressions of reeds and bears one straight incised line. The sherd is under 1 cm. in thickness.

#20. Small sherd, 1¼ cm. thick. Has smooth surfaces, with slight scarification on the outer surface.

#15. Like #20, with a thickness of 1¼ cm.

#21. Like #10 in color and texture. Smooth surfaced, with a thickness of 1 cm.

#2. Thick sherd (2 cm.). Has smooth surfaces and very hard texture.

#22. Thin small sherd, of ¾ cm. thickness. Dark gray color, very hard texture. The outer surface is slightly scarified.

#36. Smooth surfaced, very hard, reddish-brown sherd. Has very faint reed impressions on the outer surface. Latter seems soft, as if given a red slip not thoroughly baked.

#18. Small sherd, 1½ cm. thick. Has smooth surfaces, with the outer slightly reed-impressed. Brownish-gray in color.

#9. Gray, smooth-surfaced sherd, 1 cm. thick.

#39. Small sherd, ½ cm. thick, dark gray in color, with outer surface paddle-impressed.

#16. Small, reddish-gray sherd. Very hard texture. 1¾ cm. in thickness. Has clear paddle impressions on outer surface. Motif is single line of joined chevrons (Fig. 10*g*).

#6. Thick, reddish-brown sherd. Smooth surfaces, hard texture.

#17. Same as #6.

Group II includes the following sherds: numbers 13, 43, 56, 62, 63, 65, 66, 67, 68, 69, 70, 73, 78, 82, 85, 86, 87, 91, 94, 95, 96, 98, 100, 102, 105, 119, 121, 123. These have been described in general above and do not merit individual treatment.

Seven of the sherds of Group III are described below. All those sherds whose numbers have not appeared above are to be classed in Group III.

#24. Only obviously decorated sherd in the collection. This is a rim sherd, 9 mm. thick, reddish-brown in color, with a hard firm texture. The tempering material consists of silica particles and coral. The sherd has straight walls up to the rim, which is beveled inwards. The top of the rim has 8 punctations, unevenly spaced, but obviously decorative. The outer surface, ¾ cm. below the rim, has a rough herringbone pattern of incised lines (Fig. 10*h–j*).

#34. A smooth reddish-brown body sherd, with hard reddish texture, gritty tempering material. It is 7 mm. thick. Incised markings appear on both surfaces, mostly on the outer (Fig. 10*k*, *l*).

#35. A small gray sherd, with firm but gritty texture. Thickness is 11 to 12 cm. The inside surface is smoother than the outer, which is incised with rows of short parallel lines (Fig. 10*f*).

#75. Rim sherd, broken just below the lip. Has reddish-brown texture, gritty but hard. The rim flares outward at a 15 degree angle. Rim was shaped by thumb modeling. Outer surface is smooth and reddish in color, inner surface is smooth and grayish (Fig. 10*e*).

#57. Small sherd, 2½ by 1¾ cm., with thickness of 9 mm. Rather rough porous inner surface. The texture is gritty and crumbly. The outer surface is brownish-gray and lightly paddle-impressed. The sherd appears to represent a painted ware, although the paint medium may be more of a thin, slip-like, reddish clay. It covers half the sherd and seem to follow the lines of the paddle impressions.

#23. A small sherd, 12 mm. thick. The only pink-colored sherd in the collection. The outer surface is reed-impressed.

Dept. of Anthropology
University of Chicago
30 August 1944

# SURFACE COLLECTING ON TABEGUACHE CREEK

C. T. Hurst

AT THE present time a considerable number of types of projectile points, recognized as having respectable antiquity, are well known to the archaeologist. Among these are the Folsom, Sandia, Yuma, Gypsum Cave, Silver Lake, Pinto Basin, Lake Mohave, the Texas types, and others. Only relative ages can be given for most of these. What dates are possible are possible only in round numbers, as geological rather than dendrochronological evidence must be relied upon.

The ideal archaeological site would be one where all the above-mentioned types, together with all later types, serially down to the most recent one of modern times, were found stratigraphically laid down in their normal relations to each other, awaiting only the trowel of the archaeologist to relate them properly. It is safe to say that a site of this kind does not exist.

The best that can be hoped for is that the story will be pieced together little by little from the meager evidence of excavations, one by one, as they may yield data that will apply. Basketmakers and Pueblos have been definitely placed with respect to each other and many of the later peoples have been fitted into the series, but pre-Basketmaker types are known only in a general way. Future evidence must be applied to the problem.

For instance, it appears that the Sandia point is older than the Folsom point, on the basis of evidence yielded by Sandia Cave. But the truth quite possibly is that Sandia Sandia is older than Sandia Folsom, and that the whole may be more recent than Folsom generally. And, again, there is still with us the Folsom-Yuma problem.

In our own work of the past three seasons we have run onto a number of interesting things that may be worth recording. These observations bear mainly upon a possible method of approach to the problem of relationships, rather than upon any actual tangible results of much consequence.

During the past three seasons we have been engaged in the excavation of Tabeguache Cave II. This project was completed in August, 1944, and is the subject of separate reports, two of which have already appeared. Tabeguache Cave II is located on the north side of Tabeguache Canyon, between Shavano and Campbell Creeks, about five miles above the junction of Tabeguache Creek with the San Miguel River in Montrose County, Colorado.

Two years ago the chance finding of a Gypsum Cave type of projectile point on the surface in the vicinity of our cave made us decide to give one of the personnel the full-time job of scouting for surface artifacts. The individual assigned to this task was an expert at this type of work and far exceeded all expectations in the amount of material that he brought in.

This work was continued daily by the same individual for two weeks in August, 1942, and for a like period again in 1943,—four weeks in all. A wide area of rough country around our camp was covered thoroughly.

After collecting was completed, the material was studied carefully. The numerous scrapers and the artifacts other than projectile points were laid aside for future study. The points were intensively studied. They were found to range from Folsom-Yuma times—the word "time" is used in a relative sense—to that of the modern Utes.

The collection showed clearly recognizable Yuma, Gypsum Cave, Silver Lake, and Pinto Basin types, as well as Basketmaker and Ute types. In addition to these there were many that appeared to be transitional. Some unknown types turned up in this collection, as they had previously in other professional and private collections of surface material from western Colorado and eastern Utah.

One interesting point, previously of unknown relationships, which occurs in the collection we have named the "Tabeguache" (pronounced Tab-a-watch) point. The Laboratory of Anthropology at Santa Fe has a number from our general area, and they also occur widely, but not in great number, in private collections.

That the Tabeguache point must also be referred to the pre-Basketmaker series is indicated by the fact that we have found it in Cave II in deposits below a stratum that yielded objects of Basketmaker II origin.

Cave II is the second of two caves we have excavated in the Tabeguache Canyon. The first, about ten miles farther up the canyon, yielded only material of a peripheral Basketmaker II

horizon. Cave II yielded Ute; an earlier nomadic culture associated with conquest or trade Basketmaker II; a hiatus; and, finally, a still earlier nomadic culture possibly the "Tabeguache." No details regarding the caves will be given here. The interested reader may refer to the published reports.[1]

The Tabeguache point is typically relatively narrow and elongated, and from 1¼ to 2¼ inches long. The edge is slightly to moderately serrated. The notches are characteristically broad and shallow and are set opposite each other and perpendicular to the long axis of the point. These notches are very near the base. The base is variable—rather straight, convex, or even slightly concave. The cross section is diamond-shaped, with sometimes a distinct midrib on each side. The point is, as a whole, relatively thick. The chipping is sometimes collateral, more often irregular. As is natural, the point shows considerable variation, but a series of them convinces the observer that they belong to a type.

During the 1944, or third, season at Cave II only two scouting trips were taken. On one of these a most beautiful transitional Yuma point was found. Its antiquity is revealed by its heavy and perfect coat of white patination on one side; the other side reveals the darker color of the original material.

Next year (1945) we shall move our operations to a peripheral early Pueblo site about four miles from Cave II, but on the mesa north of the canyon. A weather eye will be kept open for surface artifacts, as it is now felt that these, too, must fit somewhere into the total picture we hope to get through the years yet to come.

The crux of the problem, as we now see it, is that surface material yields little or nothing in the way of relationships between the various types, but it does tell us what may have been in the country through the years and what is to be looked for as site after site is excavated. Only excavation will give the ultimate answer. Western Colorado, and more especially the Tabeguache, San Miguel, and Dolores country, possibly has the whole story.

The fact that we have found certain "types" of projectile points in the Tabeguache country is not taken by us to imply that the cultures responsible for them in their "homelands" were represented here. Some of these cultures may have had outposts that reached our region, others may not have had them. It is hardly possible, however, that all the "foreign" points were mere importations from outside the region. One has the feeling that all or at least most of the points that have been found were made and used by people who lived here. They are practically all of the same general materials and are broken by use. Very few unbroken points were found.

Naturally, it is possible that some may have been imports, and this factor cannot be ruled out. Other factors must also be taken into account. One people might be influenced by another; in that way designs might spread. Again, the whole matter of projectile point types may have been in flux and flow over a long period of time in the northern Peripheral Area, with here and there a crystalization, so to speak, here and there an accelleration, here and there a lag. While all this was going on, time was passing. So. there has, in fact, been left behind a series that may some day be made clear. It would be strange, indeed, if in the midst of all these types of projectile points there were not some clues that will lead to the story when we learn to recognize them for what they are.

It is quite well understood by us that, in dealing with projectile points, any relationships based on typology alone are not reliable and are therefore a risky business at best. Any such ideas can serve only as a basis for departure in further studies and as a framework that may need to be changed as new information comes to light. Such a typology deals only with possibilities that may or may not be probabilities.

On the basis of our surface finds in the Tabeguache country, we have attempted to infer some of the relations that might have existed. We regard this study only as a clue to what may come to light in excavations, and we believe our construction must be changed in details as facts may dictate. In this sense alone we feel that a typology *of a restricted regional collection* may have value. As facts are found, the excavations and the postulated typology may be correlated properly. This, in our way of thinking, is a desirable method of study.

The oldest type of projectile point found in the Tabeguache drainage is the Yuma point. No Folsom points have come to light. However, several small snub-nose scrapers are identical in every way with some that we found in an excavation of Folsom material in the San Luis

[1] *Southwestern Lore*, June, 1940, 1941, 1942, 1943, 1944.

Valley of south-central Colorado and are of a type also found by others elsewhere. This general type of scraper, however, is ubiquitous and not diagnostic, but our specimens are suggested in that their size and workmanship check with known Folsom material.

To our way of thinking, the evolution of projectile points in our region followed two lines. One line began with and led to further modifications of the stemless form; the other began with and led to further modifications of the stemmed form. The one began with the Yuma point; the other, with the Gypsum Cave point.

Our Yuma points are all fragmentary, but sufficiently intact to show that the chipping was oblique and that basal grinding was present. One specimen shows the nature of the shoulder and the concave base (Renaud's type 4-b).

Points in the general Yuma technique but with variable shapes and sizes—parallel sides, sides converging toward the point, sides diverging toward a shoulder and then converging rapidly toward the point—we choose to regard as transitional forms. Other characteristics are parallel flaking and basal grinding. One specimen shows a definite rudimentary channel on one side—deliberately fashioned, not accidental. One small Folsom-shaped point of this general type, without channels, was found on top of a prairie-dog mound. It came from the deepest part of the burrow. It has a Yuma-type base and basal grinding. Its very appearance suggests antiquity.

Our Pinto Basin specimens may be but degenerations of these transitional Yumas, with the basal parts given in different but not altogether new treatment. It is a characteristic trait of primitive people merely to modify some-

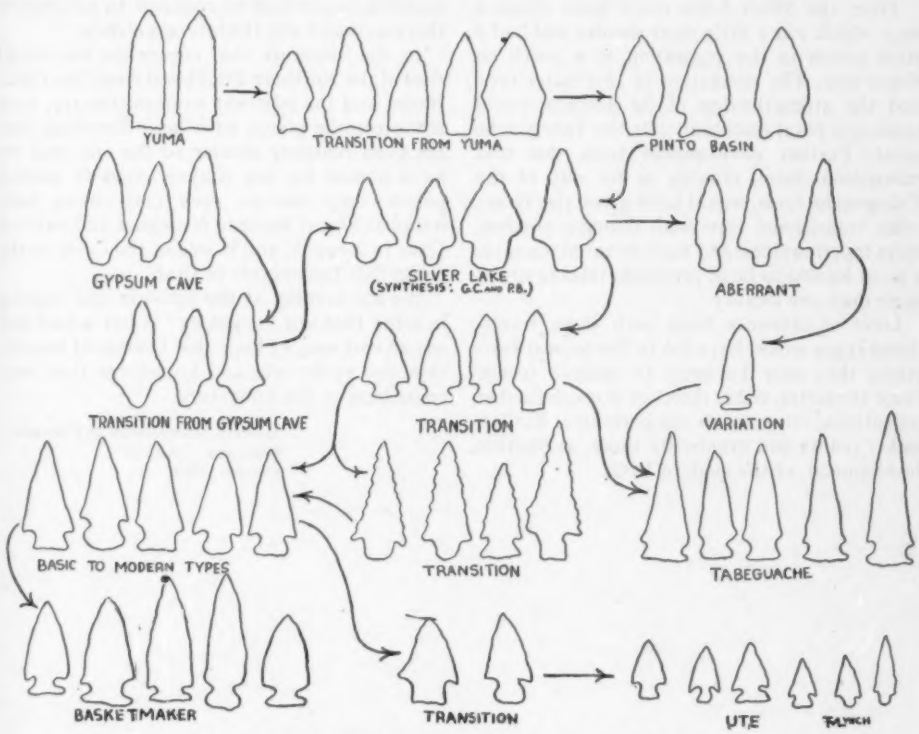



FIG. 12.—Types of points in the Tabeguache country.

thing already possessed, rather than to strike off something totally new.

The Gypsum Cave items are true to form. Through a transition from these characteristic points, and by a synthesis with the Pinto Basin form, the Silver Lake type may have come into being. It may be that something like these Silver Lake points was the forerunner of the later stemmed varieties, at least in our region.

From the Silver Lake could have arisen a form which was a little more slender and had a stem assuming the suggestion of a notch on either side. The elongation of this latter type and the strengthening of its notches would produce a point essentially like the Tabeguache point. Further development from this first transitional form, directly or by way of the Tabeguache form, would have given rise to another transitional type with stronger notches, more tapering sides, and more serrated margins, a point known to be of pre-Basketmaker age in more than one locality.

Lines of influence from both these transitional types would have led to the several variations that may be basic to modern forms. From the latter, either direct or through further transitional forms, came our peripheral Basketmaker points and eventually those, as another development, of the modern Utes.

We believe that lateral- and basal-notched points lie outside of the above-sketched evolutionary relationships, and that they stem back to an origin in the remote past—possibly through some of the Pinto Basin-like forms—and that ultimately the source of the basal notch is but a modification of the concave base of a subtriangular transitional development from the Yuma projectile. Only a few further modifications would be required to accomplish this result and add the lateral notches.

In the literature that covers the excavated sites of the Northern Peripheral Area, the Great Basin, and the adjacent western country, very few projectile points have been described that are even remotely similar to the one that we have named for our canyon. Slightly similar points—only one in each case—have been found at Signal Butte in Nebraska, in Lovelock Cave in Nevada, and in one of the caves in the Great Salt Lake region in Utah.

We are keeping at the problem and bearing in mind that our "typology" is but a tool and not an end, and we hope that continued excavation and study will add knowledge that may contribute to the final story.

Western State College of Colorado
Gunnison, Colorado
October, 1944

Philip Ainsworth Means

# PHILIP AINSWORTH MEANS, 1892–1944

S. K. Lothrop

IN THE death of Philip Means the world has lost a unique and renowned scholar, a man first trained in anthropology who later became an outstanding historian of the New World, thus combining two approaches to knowledge.

Means was born in Boston on April 3, 1892, son of James and Helen Godell Farnsworth Means, both of whom died in 1921. His father was a pioneer in the science of aeronautics. His surviving brother, James Howard Means, is chief of medical services at the Massachusetts General Hospital. On April 18, 1934, Philip Means was married to Miss Louise Munroe, who thereafter accompanied him on his various journeys. Means died in Boston on November 24, 1944, and was buried in Pomfret, Connecticut.

Means attended Noble and Greenough's and Pomfret Schools. At Harvard he graduated with the degrees of A.B. (1915) and M.A. (1917). During his Harvard career he was greatly interested in English, Spanish, and French literature, but he specialized in anthropology. At this time he acquired the knowledge of languages which proved so useful to him subsequently. He also gained the insight into prehistory which distinguished his future publications on Peru and other fields. He was fortunate in attending Harvard during a golden epoch of great teachers who covered his intellectual interests, including Professors Dixon, Ford, Haskins, Hooton, Lord, Merriman, Rivera and Tozzer.

Means' field training started in 1914 when he left Harvard for eight months to accompany the famous expedition to Peru organized by Yale University and the National Geographic Society under the leadership of Dr. Hiram Bingham. He thus was able to visit the classical Inca cities in the vicinity of Cuzco, including Machu Picchu. He also acquired his lifelong love of Peru, which he thereafter referred to as his "segunda patria." His "cariño" for the land and its inhabitants was deep rooted.

In 1917–1918 and again in 1918–1919, Means visited Peru, working under the auspices of the U. S. National Museum, the Smithsonian Institution, and the American Geographic Society. At that time travel was vastly more difficult than today, but he journeyed south to Bolivia and north to Piura and the Chira valley. He thus obtained an archaeological knowledge of the Peruvian littoral and mountains contemporaneously rivalled only by that of the late Dr. Max Uhle and Dr. Julio C. Tello.

In 1920, Means was appointed Director of the Museo Nacional (Sección de Arqueología) by President Leguia. This museum was then housed in the Palacio de la Exposición, later the Alcalde's office, now part of the Foreign Office. The setup was far from favorable, as the administration failed to provide funds. In spite of the backing of outstanding Peruvian friends and scholars, Means resigned in 1921 and returned to the United States.

The following years found Means in Europe as an Associate in Anthropology of the Peabody Museum, Harvard University (1921–1927). There he studied in various archives and thus came to know many famous European scholars. This period marks the change in his major interest from anthropology to history. It should be recorded, to show the scope of his studies, that he worked in London, Paris, Berlin, Copenhagen, Stockholm, Brussels, Genoa, Milan, Turin, Florence, Rome, Madrid, Barcelona, Valladolid, the Escorial, Córdoba, Seville, and elsewhere. He modestly stated afterwards that he had "acquired scientific data of great value." Returning from Europe in 1924, Means visited Mexico in 1925–1926, after which he again returned to Europe.

In 1929, Means settled in Pomfret, Connecticut, where, in 1937, he purchased a farm and converted the barn into a workroom and library. In Pomfret he wrote perhaps his best-known book, *Ancient Civilizations of the Andes* (1931), which was followed in the next year by *Fall of the Inca Empire and the Spanish Rule in Peru: 1530–1780*. The original idea behind these books was a trilogy carrying through from the dawn of knowledge to the republican epoch. The material, however, proved too vast and the period covered ends with the revolt under Tupac Amaru II, generally regarded as the forerunner of Latin American independence.

After his marriage in 1934, Means again went to Europe, principally to France and Belgium. He returned to Pomfret with new interests and,

in the following year, wrote *The Spanish Main*, in which he ably displayed the conflicting policies of European powers throughout the centuries in that area.

Since 1935, Means had been chiefly interested in pre-Columbian contacts between Europe and North America. As usual, he visited the places where original documents exist, including Germany, Denmark, Sweden, Norway, Iceland, and Belgium. The result of these studies is a book on the famous round tower at Newport, starting a controversy which can only be settled by archaeological investigations.

The scope of Means' work is best shown by the appended bibliography, which reflects his broad and changing interests. To this brief account of his life it should be added that he was a profound student of textile technique and published a number of erudite studies on Peruvian weaving, perhaps the most complex in the world. It should also be said that in his *Biblioteca Andina* he started for Peru a critical analysis of the basic historical writings on a pattern similar to that accomplished in Chile by the late José Toribio Medina. He also was the author of many book reviews.

Contemporary judgment on the worth of any man's work is probably without much value. One can say without prejudice, however, that Means' *Ancient Civilizations* now is the standard textbook on Inca society and promises to be so indefinitely. Fourteen years after publication of this work, the first questioning of his chronology has recently appeared.[1] The author of this, representing a younger and perhaps better-informed generation, remarks in appreciation of Means' studies, "No one except Means has been sufficiently interested in this aspect of Andean cultural history to master it." Great advances have been made in archaeological knowledge and technique during the past decade, and Means' picture of Peruvian archaeology is now adequate only for the beginner.

Special mention also should be made of Means' translations of Spanish historical material into English, totalling six volumes. First came his *History of the Spanish Conquest of Yucatan and of the Itzas* (1917), one of his two publications dealing with the Maya. He also brought out translations of the Peruvian chroniclers Pedro Sancho (1917), Montesinos (1920), and Pedro Pizarro (two volumes in 1921). Finally he translated Elorza y Rada's account of the conquest of the Itzas (1930).

Among the many scientific societies to which Means belonged, the following may be listed: American Academy of Arts and Sciences, Institute of Andean Research, American Anthropological Association, American Antiquarian Society, Instituto Arqueológico de Cuzco, American Association for the Advancement of Science, Connecticut Academy of Arts and Sciences, Connecticut Historical Society, Hakluyt Society, New York Historical Society, Mediaeval Academy of America, Academía Nacional de Historia (Quito), Société des Américanistes de Belgique, Société des Américanistes de Paris. In 1934 he was made an official of the Order of the Sun by the Peruvian Government.

Means is succintly described in the *Providence Journal* as "an immense man from whom issued an alarmingly high-pitched voice and who exuded such energetic delight in life that merely to meet him was to have a memorable experience of charm, intelligence and vitality." His ardor for the exchange of ideas was inexhaustible, which led him into voluminous and erudite correspondence with friends, editors, and scholars—notably Sir John Frazer, Sir Clements R. Markham, and Capt. T. A. Joyce. He had definite opinions on many aspects of life and possessed a sharp and witty tongue to express them. At the same time, he was a loyal and cooperative friend and was always humble in the face of scholarship.

[1] Rowe, John H. "Absolute Chronology in the Andean Area," AMERICAN ANTIQUITY, Vol. 10, No. 3, 1945, pp. 265–284.

## BIBLIOGRAPHY

1916. "Some Objections to Mr. Elliot Smith's Theory." *Science*, n.s., Vol. 44. Lancaster, Pennsylvania.

1917. *An Account of the Conquest of Peru;* written by Pedro Sancho, secretary to Pizarro and scrivener to his army; translated into English and annotated by Philip Ainsworth Means. Documents and narratives concerning the discovery and conquest of Latin America, No. 2. Published by the Cortez Society. New York.

1917. *History of the Spanish Conquest of Yucatan and of the Itzas.* Papers of the Peabody Museum, Vol. 7. Cambridge.

1917. "An Outline of the Culture-Sequence in the Andean Area." *19th International Congress of Americanists.* Washington, D. C.

1917. *Preliminary Survey of the Remains of the Chippewa Settlements on La Pointe Island, Wisconsin.* Smithsonian

Miscellaneous Collections, Vol. 66, No. 14. Washington, D. C.

1917. "Realism in the Art of Ancient Peru." *Art and Archaeology*, Vol. 6, No. 5. Baltimore and Washington, D. C.

1917. *A Survey of Ancient Peruvian Art.* Transactions of the Connecticut Academy of Arts and Sciences, Vol. 21. New Haven, Connecticut.

1918. "Anthropological Work in Peru and Bolivia." *Smithsonian Institution, Explorations and Field-Work . . .* in 1918. Washington, D. C.

1918. "The Domestication of the Llama." *Science*, n.s., Vol. 47. Lancaster, Pennsylvania.

1918. "Inca Institutions, Yesterday and Today." *Pan-American Union Bulletin*, Vol. 47. Washington, D. C.

1918. "Pre-Columbian Peruvian Chronology and Cultures." *Man*, Vol. 18. London.

1918. "Race Appreciation and Democracy." *The Journal of Race Development*, Vol. 9, No. 2. Worcester, Massachusetts.

1918. "Race Appreciation in Latin America." *Science*, Vol. 48. Lancaster, Pennsylvania.

1918. "Las Relaciones entre Centro America y Sud-America en la Época Prehistórica." *Boletin de la Sociedad Geográfica de Lima*, Tomo 33. Lima.

1918. "Social Conditions in the Piura-Tumbes Region of Northern Peru." *Scientific Monthly*, Vol. 7. Lancaster, Pennsylvania.

1919. "La Civilización Precolombina de los Andes." *Boletin de la Sociedad Ecuatoriana de Estudios Históricos Americanos*, Vol. 3. Quito.

1919. "Distribution and Use of Slings in pre-Columbian America, with Descriptive Catalogue of Ancient Peruvian Slings in the United States National Museum." *Proceedings of the U. S. National Museum*, Vol. 55. Washington, D. C.

1919. *Racial Factors in Democracy.* Boston.

1919. "The Rebellion of Tupac-Amaru II, 1780–1781." *Hispanic American Historical Review*, Vol. 2, No. 1. Baltimore, Maryland.

1920. "Aspectos estético-cronológicos de las civilizaciones andinas." *Bcletin de la Academia Nacional de Historia*, Vol. 1. Quito.

1920. "Ciertos aspectos de la rebelión de Tupac Amaru II, 1780–81." *Mercurio Peruano*, March. Lima.

1920. "Indian Legislation in Peru." *Hispanic American Historical Review*, Vol. 3, No. 4. Baltimore, Maryland.

1920. *Memorias Antiguas Historiales del Perú;* by Fernando Montesinos; translated and edited by Philip Ainsworth Means . . . With an introduction by the late Sir Clements R. Markham. The Hakluyt Society, Series 2, No. 48. London.

1921. "Nota acerca de un Cuadro Relativo al Sepelio del Inca Atahualpa." *Boletin de la Academia Nacional de Historia*, Vol. 2. Quito.

1921. *Relation of the Discovery and Conquest of the Kingdoms of Peru by Pedro Pizarro;* translated into English and annotated by Philip Ainsworth Means. Documents and Narratives Concerning the Discovery and Conquest of Latin America, No. 4. The Cortez Society. New York.

1923. "Some Comments on the Inedited Manuscript of Poma de Ayala." *American Anthropologist*, n.s., Vol. 25. Menasha.

1925. "A Series of Ancient Andean Textiles." *Bulletin of the Needle and Bobbin Club*, Vol. 9. New York.

1925. "A Study of Ancient Andean Social Institutions." *Transactions of the Connecticut Academy of Arts and Sciences*, Vol. 27. New Haven.

1927. "A Group of Ancient Peruvian Fabrics." *Bulletin of the Needle and Bobbin Club*, Vol. 11. New York.

1928. *Biblioteca Andina. Part I. Transactions of the Connecticut Academy of Arts and Sciences*, Vol. 29. New Haven.

1930. *A Narrative of the conquest of the province of the Ytzas in New Spain performed by Captain Don Martin de Ursua y Arizmendi . . . and described by Dr. Don Francisco de Elorza y Rada . . . .* Now first translated into English and accompanied by a facsimile of the original edition, the translator being Philip Ainsworth Means . . . Paris.

1930. "The origin of tapestry technique in pre-Spanish Peru." *Metropolitan Museum Studies*, Vol. 3, Part I. New York.

1930. *Peruvian Textiles, examples of the pre-Incaic period;* with a chronology of early Peruvian cultures by Philip Ainsworth Means and an introduction by Joseph Breck. Metropolitan Museum of Art. New York.

1931. *Ancient Civilizations of the Andes.* New York, London.

1931. "A Re-examination of Prescott's Account of Early Peru." *The New England Quarterly*, Vol. 4, No. 4. Boston.

1932. *Fall of the Inca Empire and the Spanish Rule in Peru: 1530–1780.* New York, London.

1932. *A study of Peruvian textiles illustrated by representative examples in the Museum of Fine Arts, Boston.*

1934. "Des Commentaires sur l'Architecture Ancienne de la Côte Péruvienne." *Bulletin de Société des Americanistes de Belgique*, No. 14. Bruxelles.

1934. "New Clues to Early American Culture; the discoveries of an archaeologist in Peru suggest a link between the civilization of Mayas and Incas." *New York Times Magazine*, May 20, 1934. New York.

1934. "Zelia Nuttall: An Appreciation." *The Hispanic American Historical Review*, Vol. 13, No. 4. Baltimore, Md.

1935. "Cuzco-Tiahuanacu, su verdadera relación cronológica." *Revista del Museo Nacional*, Tomo 4. Lima.

1935. "Dos Obras Históricas de Gran Importancia para el Perú." *Revista del Museo Nacional*, Tomo 4. Lima.

1935. *The Spanish Main.* New York and London.

1935. "To Lima, on her 400th anniversary." *Bulletin of the Pan American Union*, Vol. 69, January-February. Washington, D. C.

1936. *Ancient Peruvian Art on Loan at the Fogg Art Museum.* Cambridge.

1936. "Elena and Victoria Izcue and their art." *Bulletin of the Pan American Union*, Vol. 70. Washington, D. C.

1938. "Archaeology as a reason for 'visiting the Americas'." *Bulletin of the Pan American Union*, Vol. 72, February. Washington, D. C.

1938. "The Incas, Empire Builders of the Andes." *National Geographic Magazine*, Vol. 73. Washington, D. C.

1939. *Algunos Comentarios sobre el Manuscrito Inédito de Felipe Huaman Poma de Ayala.* Museo de Antropología. Publicaciones, Vol. 1, No. 1. Lima.

1940. "Algunos Ideas para la Protección de la Arqueología en el Perú." *Revista del Museo Nacional*, Tomo 9. Lima.

1940. "The Philosophic Interrelationship between Middle American and Andean Religions." *The Maya and Their Neighbors*. New York, London.
1940. "Pre-Columbian Art and Culture in the Andean Area." *Bulletin of the Museum of Art, Rhode Island School of Design*, Vol. 28, No. 3. Providence, Rhode Island.
1940–41. "Pre-Columbian Andean Art." *Magazine of Art*, vols. 33, 34. Washington, D. C.
1942. "A Great Prelate and Archaeologist." *In Hispanic American Essays in Commemoration of James Alexander Robertson*, edited by A. Curtis Wilgus. Chapel Hill.
1942. *Newport Tower*. New York, London.
1942. "Pre-Spanish Navigation off the Andean Coast." *The American Neptune*, Vol. 2, No. 2. Salem, Mass.
1942. *Tupak of the Incas;* by Philip Means with editorial assistance from Alice Dalgliesh; illustrations by H. M. Herget. New York.
1943. "Latin American Cultural and Historic Foundations." *New World Guides to Latin America*, Vol. 2. New York.
1943. "Preliminary report of the Institute of Andean Research Program," by W. C. Bennett, P. A. Means, W. D. Strong and G. C. Vaillant, Administrative Committee. *Acta Americana*, Vol. 1. Los Angeles.
In press. Articles on Arequipa, Cuzco, Inca, La Libertad, Lima, Peruvian Archaeology, Trujillo. *Encyclopedia Americana*. New York.

New York City
May, 1945

George Clapp Vaillant

UNIV. OF MICH.

# GEORGE CLAPP VAILLANT, 1901–1945

WM. DUNCAN STRONG

IT IS probably impossible for the living to understand the act which terminated this very rich and promising career in mid-course. George Vaillant was no ordinary person and subject to no simple formula. Those who knew this man "went proudly friended." That his destiny held "To sail beyond the sunset, and the baths of all the western stars" they mortally regret. They all agree, however, that he left the world a much richer place than he found it.

The man was outstanding as an anthropologist as well as many other things beside and it is as a scientist that he should first be considered. Concerning his development both as a scientist and humanist, it may be well to remember that prior to the turbulent 1920's his primary interests were artistic and literary, momentarily mixed with the militaristic, due to the tempo of those as well as later times. His literary lode stars, I am told, were then Thomas Hardy, Dostoevsky, and Henry James, and his earlier writings on Mayan and Mexican stratigraphy have at times puzzled his contemporaries, perhaps for that reason. They are factual to an almost unlimited extent but they are complex, for not only were the facts complex but his was a complex and searching mind. Gradually as one follows his work a clearer delineation appears. Throughout the later record, the facts and their temporal placing still come first but, more and more, his penetrating interpretations in humanistic terms become simplified in expression and easier to understand.

This significant progression reaches a climax in *Aztecs of Mexico* (1941),[1] a book which not only won for him popular acclaim but also the academic title he regarded most highly, that of "Honorary Professor" conferred on him in 1942 by the Museo Nacional de Antropología of Mexico. This work marks a culmination wherein the complexities of scientific archaeology, art evaluation, ethnology and history are all integrated by deep thought and fine writing into the dynamic story of a living people—their past, present and predictable future. Behind this, Vaillant's master work, lay a vast stint of labor which we will touch on later. Before doing so, however, a word about the book. This was no flash of genius. No one, unless it be his wife, Susannah Beck Vaillant, to whom the book is dedicated and who played a large part here, as in his earlier scientific excavations and writings, knows how many times it was re-written. The present writer read two complete manuscript versions and suggested drastic revisions few of which were visible in the final rendition. Recently I have been told by several of his close scientific and literary friends that they did the same with similar results. All suggestions were considered but the book as it finally appeared was his and his alone. Facing the present moment it is good to know that it was so well received both in the United States and, more important to the author, in Mexico, where it was quickly made available in Spanish. The author was deeply touched and very pleased. It is difficult to reach the minds and hearts of one's own countrymen, but to do that and also to satisfy both the experts and general readers of a neighboring republic when one is analyzing their own rich and turbulent past is an unique and very real triumph. In his lifetime George Vaillant achieved this and he was thereby proud, humble and very grateful.

Vaillant's name will always be most closely associated with the Valley of Mexico and the detailed stratigraphic excavations he carried on there from 1928 to 1936. However, his work in the American field began with the study of an even greater civilization, that of the Mayan peoples of Yucatan and Guatemala. His doctoral thesis "The Chronological Significance of Maya Ceramics" (1927) laid an objective basis for all subsequent research in this field despite the fact that it has never been published. Fortunately the Carnegie Institution made nine copies available and these have been worn threadbare by many students involved in this field. Nothing is usually so dead as a buried thesis, but Vaillant's has proved an exception. I venture to predict that the future student who brings this work up to date, and gets it published, will thereby make his reputation. Vaillant also made a very significant contribution in the Maya field when, in 1932, he brought to-

[1] A complete bibliography of the published works of George C. Vaillant prepared by Gordon F. Ekholm will appear in *The American Anthropologist*, Vol. 47, No. 4, 1945.

gether and published the important results attained by Merwin and Hay at Holmul. Ignoring, for lack of space, other significant contributions in this field, we come to his highly stimulating "Chronology and Stratigraphy in the Maya Area" (*Maya Research*, vol. 2, 1935) wherein he attempts to correlate the results of "classical" Maya epigraphy and calendric dating with the ceramic sequences established by the "dirt" or stratigraphic archaeologist. The result is a series of five possible calendric and ceramic horizon correlations ranked in their apparent order of probability. He concludes with a plea for "more excavations producing factual evidence, that will serve to resolve the divergences now apparent in the two methods of approach. To the end, Vaillant believed that Maya civilization represented "the highest intellectual expression of American Indian culture" (*The Archaeoloicagl Matrix of Maya History*, El Colegia de México, 1940) but he early renounced any belief that this culture was either "basic" or utterly unique among the great civilizations of the New World. Trained in the classical school of American archaeology he nevertheless quickly saw that the Maya cultural tradition was merely one among many and he was soon searching both farther afield and deeper in time.

In 1928, shortly after he joined the staff of the American Museum of Natural History, this quest took him to the Valley of Mexico. Here over a period of eight years he accomplished his finest work. Stimulated and aided by such students as Alfred Tozzer, Clarence L. Hay and Manuel Gamio, Vaillant launched an intensive attack on the prehistory and early history of the Valley which involved numerous deep stratigraphic excavations such as Zacatenco, Ticoman, El Arbolillo, Gualupita and others. The basic monographs on these meticulous excavations were later followed by numerous well illustrated, interpretative articles published in *Natural History*, the *Proceedings of the National Academy of Science* and elsewhere. These in turn were finally incorporated with rich historical and ethnological materials into *Aztecs of Mexico*. Throughout this period of intensive field work, study and writing he received invaluable aid from his wife, a resident of Mexico City, whom he married in 1930. This was also a period of great activity on the part of Mexican archaeologists and the Vaillants worked in close personal and intellectual cooperation with Alfonso Caso, Eduardo Noguera, Jimenez Moreno, and other Mexican scientists and historians. The results of their combined labor and research are too well known to need more than brief mention. In 1928, when Vaillant began his work, Mexican prehistory was conceived as falling into three major periods, Archaic, Toltec, and Aztec. By 1936, these combined research programs, in which Vaillant played an outstanding role, had transmuted this older threefold division into a rich and detailed developmental record of many cultures, culminating in that of the Aztec. Concerning the earliest known cultures of the Valley, Vaillant early (1928) coined the term "Middle Cultures" as being more truly descriptive than their former designation "Archaic." In his opinion the earliest formative, or truly "Archaic," cultures of Middle America still await discovery. Concerning later horizons, his paper, "Hidden History" (*Natural History*, 1933), laid the foundations for the elucidation of the Mexican period at Chichen Itza.

As previously indicated, the publication in 1941 of *Aztecs of Mexico* marked the final rich harvest of Vaillant's work in the great central valley. However, in 1940 appeared two small but highly significant papers which contain his final conclusions on the major stages in Middle American culture history. One of these "Patterns in Mexican Culture" appeared in *The Maya and their Neighbors*, a volume which was dedicated to Alfred M. Tozzer and edited by Vaillant and four other former students of Tozzer. In this article, Vaillant outlines six major stages in the transition of Middle American culture from hunting and gathering to the advanced Mexicanized pattern encountered by the Spanish. In *The Matrix of Maya History* he presents his final conclusions concerning the major sequences of the post-Archaic or horticultural horizons in Mexico, Guatemala and Honduras. He designates the earliest dated horizon as the "Tres Zapotes-La Venta Culture" thus accepting the disputed earliest Tres Zapotes dated monument as contemporary and valid. On this general level he also groups the earlier Maya manifestations at Uaxactun, the earlier manifestations at Monte Alban, the Playa de Los Muertos culture and the earlier Middle Cultures of the Valley of Mexico. From this early matrix, obviously non-Maya in many of its important constituents, he proceeds to discuss four later derived Mayan stages cul-

minating in the wide spread of Mixteca-Puebla influences just prior to the Conquest.

It has been stated that Vaillant was much more than a scientist. Among these many-sided talents his understanding of art, ancient and modern, and his flair for practical cultural relations were perhaps the most outstanding. His remarkable feeling for art styles was strikingly demonstrated by his very early recognition of the so-called "Olmeca" style and its probable great significance ("A Bearded Mystery," *Natural History*, 1931, and "A Pre-Columbian Jade," *Natural History*, 1932). Since that time the series of amazing discoveries made by Matthew W. Stirling have amply verified Vaillant's predictions concerning the time range and importance of this "Olmeca" or Tres Zapotes-La Venta culture in southern Vera Cruz and Chiapas. This flair for art appreciation and presentation is represented in a series of beautifully illustrated articles on the art of the Aztec, Maya and their neighbors of which "Artists and Craftsmen of Middle America" 1935, and "Masterpieces of Primitive Sculpture," 1939 are but two examples among many. Concerning native art north of Mexico, he gathered together a splendid series of photographs which are included in his book *Indian Arts in North America*, 1939. His knowledge of colonial and ecclesiastical architecture in the Americas was equally extensive and his interest and energy in this regard unflagging. In 1939, the present writer, accompanying Vaillant on a tour of the Valley of Mexico, admitted defeat when, in addition to every notable prehistoric ruin, George also re-visited practically every colonial church. After the first twenty odd churches of all periods, the writer was quite content to view exteriors alone but Vaillant continued his thorough explorations of many more. His interest and knowledge likewise included both folk and more sophisticated modern art, and native craftsmen and famous artists in many countries were among his warmest friends.

It was this combination of humanistic and scientific competence with a warm and striking personality that made Vaillant a very important figure in the field of cultural relations. He believed that two-way cooperative effort between nations, particularly in the fields of science and the humanities, could be the keystone to international understanding. In Mexico his own work stands as a living demonstration of this belief. Later, in 1945, after two years of successful service as the first United States Cultural Relations Officer in Peru, he summed up his fundamental precepts and beliefs concerning the many opportunities, as well as pitfalls inherent, in official efforts toward bettering cultural relations between nations in a thoughtful forthright article "Shadow and Substance in Cultural Relations" (*Scientific Monthly*, May 1945). Here he stresses the important fact that cultural relations involve personalities and actual accomplishments far more than they do propaganda and subsidies. He who would be a good cultural relations proponent should first be a producing scientist, author, artist, or business man in his own right, for if he has nothing better to offer other than official position, good will or propaganda, his influence will be nil. The record in Mexico and Peru, strongly indicates that George Vaillant more than lived up to the standards he suggests for others working in this his last, very important, but most intangible, field of accomplishment.

Thus, in a brief professional career of eighteen years, George Vaillant attained marked eminence as a productive scientist, museum administrator and successful proponent of closer cultural relations among the American and other nations. He was also a stimulating teacher at Yale, Columbia, New York and Pennsylvania universities. It is undoubtedly significant that while the first three of these major activities overlapped they were in general successive. Vaillant received thorough anthropological teaching at Harvard, was trained in archaeological field techniques by S. J. Guernsey, Earl Morris and more particularly, by A. V. Kidder at Pecos, and had first hand experience in 1923–24, both with Reisner in Egypt and at Carthage. Then followed more work with Kidder in the Southwest and, in 1926, excavations at Chichen Itzá for the Carnegie Institution. In 1927 he joined the staff of the American Museum of Natural History in New York and the next year, aided particularly by Clarence L. Hay, he began his individual researches in the Valley of Mexico. This period, from 1928 to 1940, includes his most productive years as a creative scientist. Toward the close of his connection with the American Museum, administrative and teaching activities had begun to absorb his time. In 1941, when he accepted the Directorship of the University Museum in Philadelphia, he had obviously moved into the administrative rather than the research role. This same year he

played a leading part in launching and guiding the very successful Institute of Andean Research program of 1941–42 which included ten internationally cooperative archaeological expeditions in Latin America and the subsequent publication of their results. Vaillant's deep interest and knowledge concerning Latin America early drew him into the field of Pan-American cultural relations where he served on numerous committees of the research councils and the State Department. He was a logical choice as the first Cultural Relations Officer to be sent by the United States to Peru, and with his family, he spent the years of 1943–1944 in Lima. Here with his wife he played an important part in creating a closer understanding between intellectual and political groups and personalities not usually brought into close rapport. His success in this mission is further indicated by the fact that in 1945, after he had resumed his duties as Director of the University Museum, he was again called upon by the government to serve as chief representative of the Office of War Information in Madrid. At the time of his death he was preparing to proceed on this mission accompanied by his family. His death came at the very time when he had passed from apprenticeship to full mastership as a scientist, a writer, an administrator and an expert in effective cultural relationship between nations.

Like Rupert Brook, George Vaillant "was winning in his ways. There was at first contact both bloom and charm, and most of all there was life. To use the word his friends describe him by, he was 'vivid.'" His death on May 13, 1945, leaves an empty space in the friendships of both those who had known him longest and those who had met him only the other day. To anthropological science, particularly in the American continents, as in the field of international relations his position was unique and he is widely and deeply mourned by many statesmen, artists, scientists, museum employees, field assistants and others who shared his varied labors and interests at home and abroad.

Columbia University
July, 1945

# WILBERT B. HINSDALE

E. F. GREENMAN

ON July 25, 1944, Dr. W. B. Hinsdale, of the Museum of Anthropology, University of Michigan, died after an illness of two months. When Dr. Hinsdale retired from the deanship of the Homoeopathic Medical College in 1922, at the age of seventy years, he was given charge of the collections from Michigan in the Museum of Zoology. Upon the establishment of the Museum of Anthropology, he was placed in charge of the Division of the Great Lakes. He was, therefore, identified with this museum from its beginning, and he contributed materially to its growth. Dr. Hinsdale's best known publications are the "Archaeological Atlas of Michigan," "Primitive Man in Michigan," and "Distribution of the Aboriginal Population of Michigan." All of his professional work was done in this state, and most of his publications are in the *Occasional Contributions of the Museum of Anthropology*, the *Michigan Handbook Series*, and in the *Papers of the Michigan Academy of Science, Arts and Letters*.

Dr. Hinsdale's activities in archaeology long antedated his professional connection with the University of Michigan in that field. He had previously excavated sites in Michigan, and through purchase and exchange had built up a large collection of archaeological and ethnological materials. Along with this, he acquired an excellent library on anthropology. At the time he became connected with the University, it was probably the best such private library in Michigan, and it was backed by another nearly as large on general biology and evolution. He thus had a strong feeling for archaeology as a part of the general field of anthropology, and, when the McKern classification came out, with its apparent emphasis on archaeology as an end in itself—as pure taxonomy—he was quite troubled and mystified. His most often-repeated question to me in the past six years was "What is this McKern classification? Is there anything to it?" My answer was always affirmative, but it never satisfied him and he always felt that something of the human touch had been lost.

If I may speak for Dr. Hinsdale, and summarize his attitude toward archaeology, I would say that he was primarily a technologist interested in the direct bearing of the data upon the understanding of human life, and not so much in the search for historical relationships between whole blocks of cultural phenomena.

Museum of Anthropology
University of Michigan
December, 1944

# ANN AXTELL MORRIS

ANN Axtell Morris, equally gifted as archaeologist, author, and artist, died at her home in Boulder, Colorado, on April 1, 1945. After graduating from Smith College, Mrs. Morris studied in France with the American School of Prehistoric Research. In 1923 she was married to Earl H. Morris and thereafter collaborated with him in his work for Carnegie Institution of Washington in the Maya and Southwestern fields. At Chichen Itza she excavated the Temple of the Xtoloc Centote and copied the many important wall-paintings in the Temple of the Warriors. She was joint author, with her husband and Jean Charlot, of the report upon that building. In the Southwest she devoted herself to the recording and study of pictographs and cave-paintings, amassing a large and valuable archive of photographs, drawings, and water-colors. Her two books, "Digging in the Southwest" and "Digging in Yucatan" have had an extensive sale, which still continues. They have done much to acquaint the general reader with the methods and aims of archaeology.

# FACTS AND COMMENTS

## THE ORIENTATION OF MIDDLE AMERICAN SITES

One of the first aspects of Middle American culture which strikes an amateur as interesting and possibly significant is the ordered arrangement of the buildings in almost all sites. Like those of Egypt—and unlike those of Greece and Rome—the sites seem to have been planned on a large pattern. The individual buildings are arranged according to a scheme which gives them space and which orients them on a common axis. They are not dropped in helter-skelter, crowded cheek-by-jowl, and set at odd angles to one another.

Further, the city plans of Middle America seemollow fhe another and larger pattern. This is the pattern of the north and south axis of each site and each building. This orientation almost invariably follows one of three schemes. It is sometimes true north, sometimes about 7 degrees east of north, sometimes about 17 degrees east of north, but practically never west of north. There are some sites which have no general pattern, and therefore no orientation. Yaxchilan, Piedras Negras, Naachtun are three of eight that I could name. In all cases, the land upon which the buildings were erected is too irregular in elevation and contour to permit of orderly arrangement.

I know of only one paper which deals with this matter of orientation.[1] This considers certain sites and structures oriented to 17 degrees east of north. The writers cite the entire pattern of Teotihuacan and the single pyramids of Cholula and Tenayuca—the first two sites being "Toltec," the third Aztec. They also cite buildings of the Mexican period at Chichén Itzá and Uxmal which are similarly oriented. Obviously, this 17 degree deviation from true north is a Toltec trait perpetuated by the Aztecs. I think they might have added the great pyramid of Mexico City. From a map of the Zocolo, it would seem as if the bottom steps, which are all that is left of the pyramid, indicate an orientation 17 degrees east of north. A similar orientation is found at Tula.

Marquina and Ruiz also mention that "a large number of Maya monuments . . . as well as many of those of Oaxaca"—Monte Alban and Mitla, for example—are set with a face to the west, which means upon a north-south axis. But they do not note that there are quite as many—perhaps even more—sites and buildings which deviate from true north by about 7 degrees east. Among the Maya sites which are mapped in Morley's *The Inscriptions of Peten*, Marquina's *Estudio Arquitectonico Comparativo de los Monumentos Arqueologicos de Mexico*, and Ruppert and Dennison's *Archaeological Reconnaissance in Campeche, Quiniana Roo, and Peten*, I find nineteen of the "Old Empire" sites oriented 7 degrees east of north, three in Campeche, three in Quintana Roo, and three in Yucatan. If Morley had published as extensive maps for the northern area, I am sure many more sites would be found which are oriented north or 7 degrees east of north. At Chichén Itzá the Monjas falls in the 7 degree group, and this is true also of the Nunnery and the Pyramid of the Magician at Uxmal.

The axes of at least three sites of central and east-coastal Mexico—the northern portion of Xochicalco and the pyramids of Tajin and Tepoztlan—align 7 degrees east of north.

I wonder if it is possible to trace a historical pattern from the admittedly late buildings oriented to 17 degrees east, through those set at 7 degrees east, to those oriented true north. It is suggestive that the two stair-ramps of Cuicuilco, oldest of Mexican structures, line up true north. In the books cited I find two such orientations in Campeche, one in Yucatan (Kabah), and nine in the cities of the "Old Empire." At Uaxactun, Copan, and Uxul one group of buildings is oriented due north, and another 7 degrees east of north. Were the former buildings older than the latter?

The two ends of this sequence seem clear enough. We have ancient Cuicuilco oriented true north, and we have late buildings at Chichén Itzá and Uxmal, and still later Tenayuca, with a 17 degree axis. We have some "Old Empire" sites oriented true north, some sites split between true north and 7 degrees east of north, and a great many 7 degrees east of north. Then we have the mixture between 7 degrees and 17 degrees at Chichén Itzá and Uxmal.

Marquina and Ruiz have pointed out what may be the astronomical basis of the 17 degree orientation. On the two days of each year when the sun passes through the zenith at Teotihuacan and Tenayuca, they write, it sets 17 degrees north of west. (I have spoken only of a north-south axis, but this implies an east-west one at right angles.) The latitude of Chichén Itzá and Uxmal is close to that of Teotihuacan.

Orientation true north would, of course, have been a simple matter for a people who observed the setting of the sun at the equinoxes. The 7 degree orientation is another matter. What can this have been based upon? Certainly not the setting of the zenith sun in the 14 to 16 degree latitudes of "Old Empire." Oddly enough, 7 degrees is the variation of the magnetic compass in the Middle American area, where the arrow of magnetic north so often indicates the axis of the sites. But *caveat emptor!*

KENNETH MACGOWAN
Los Angeles, California

## MIOCENE FOSSIL FOUND IN OREGON KITCHEN-MIDDEN

One does not usually think of the American Indian as a paleontologist, although it is known that occasionally he did use fossils (vertebrate, invertebrate, and plant) for their presumed medical and magical values.[1] It is possible, however, that a fossil might have been collected and carried home simply because of the curiosity aroused by its resemblance to more familiar objects in nature. In this particular instance, the mental processes of the collector are not to be dug out of his rubbish heap.

On August 5, 1944, a number of biology students from Reed College, and other interested persons were digging in a kitchen-midden which is exposed for some 50 yards along the south bank of Fogarty Creek, Lincoln County, Oregon, just above the entrance of the creek into the ocean. The midden consists of a layer of mixed ash and shells 10-12 inches thick, marking an old campsite, now covered with brush and forest. Most of the shells are of the California mussel (*Mytilus californianus*), but there are also numerous "butterfly" shell plates of the giant chiton (*Cryptochiton*

[1] Marquina and Ruis "The Orientation of Pyramids," 1932.

[1] V. H. Jones, "Fossil Bones as Medicine." *American Anthropologist*, Vol. 44, 1942, pp. 162–164.

*stelleri*). One side of the midden has been exposed by the erosion of Fogarty Creek, but the total extent of the campsite was not determined.

In the lowest stratum of the midden, completely surrounded by discarded shells, was uncovered a nearly perfect

FIG. 13.—Fossil gastropod from midden in Oregon.

fossil of the gastropod, *Miopleiona indurata* (Conrad). This large fossil, 4¼ inches long and 2¼ inches across the base, and with calcareous sandstone still adhering to it, is easily recognizable as a snail shell. Examples of this genus are frequently found in the marine Astoria formation of mid-Miocene age, exposed throughout much of this part of the coast. A Sitka spruce (*Picea sitchensis*) 12 inches in diameter was growing on the midden directly over the site of the fossil.

We probably can never know what the early Indians thought of the mollusc shells so clearly visible in the exposed shales along these Oregon beaches, but some individual, perhaps a child, had enough curiosity to dig out a particularly large and well-preserved example and carry it back to camp with him. Did we have here an unsung Xenophanes?

LEO F. SIMON
Geological Society of the Oregon Country
CHARLES A. REED
Reed College, Portland, Oregon

## "HOPEWELLIAN" ELEMENTS IN NORTHERN GEORGIA

At the present time there is much interest in the relationship of Ohio Hopewell to Southeastern archaeology in general. It seems important, therefore, that all evidence which can contribute towards the formulation and ultimate solution of this problem be duly recorded.

The evidence in question consists of a perforated copper breast-plate, two tapered celts, fragments of design-cut sheet copper, and a copper celt, all found with a mica-covered, extended burial at the base of a stone mound near Cartersville, Bartow County, Georgia.

The mound was located on the property of Mr. Frank Shaw, Ladd, Georgia, two miles west of Cartersville. Ladd Mountain, whose east face has been considerably altered by mining operations, was originally encircled by an aboriginal stone enclosure which must have contained at least forty acres. Situated on a southern spur of the mountain was a stone mound, estimated at fifty feet in diameter and about ten feet high. The mound had a thick, roughly horseshoe shape. The center of the horshoe was formed by a depression in the mound where the rocks were only about six feet deep. This depression, in the opinion of Mr. J. H. Wofford, an interested amateur, was apparently part of the actual mound structure and did not represent a pot-hole, since the rock layers seemed to follow that contour.

Several years ago, in 1940, Shaw, overcome by curiosity as to the contents of the mound, sold the rock in the enclosure to the county for road material, and only traces of the wall exist today. A rock crusher was set up at the site and the mound was demolished. Nothing was found in the rock layers. At the base of the mound, however, somewhat to one side and directly in the center of the depression, were found the remains of an extended burial. This burial was flat on the original soil, and it seems to have been the sole *raison d'être* for the mound. As Mr. Shaw, who knows nothing about archaeology, expressed it (without prompting), "The top of the pile was sunk in and it looked as if the stone had been piled up on top of a log room that have caved in." Judging from a fragment of jaw, the burial seems to have been that of an adult male. Covering its face and chest were several large sheets of mica. Lying on its chest was a plain, trapezoidal copper breastplate with double holes for suspension. On each side of the head lay a tapered-based celt. Over the pelvis were several fragments of sheet copper which seem to have been parts of a large cut-design ornament. The expanded-bitted copper celt (see Plate XVII, *center*) lay somewhere loose in the rock and hence went through the crusher and was slightly damaged. Mr. Wofford was present when the skeleton was found, and we are indebted to him for this description.

The breast plate was apparently about 8 inches in length and 4.5 inches in width. The copper is quite heavy (about ⅛ inch thick). The shape was apparently trapezoidal with a wide base and gracefully curving sides. The suspension holes were neatly drilled—not punched—and the artifact may be said to be a typical Hopewellian copper breast plate.

The greenstone celts are double-beveled. Both have long, irregular, tapered bases and both show chipping at the tip of the tapered base. They are a type of artifact quite distinct from the later celts found at the nearby Etowah mounds. They are typical, in fact, of the celt type which Webb describes from the "Copena" mound, La° 37, in the Wheeler Basin in northern Alabama.

The fragments of cut-copper ornament are so corroded and damaged that little can be said of them. The copper, while rather heavy, is somewhat thinner than that from which the breastplate was made.

The copper celt is appreciably different from those celts, similar in shape, found in Mound C, Etowah, and which I have personally examined. It is thicker in cross section, quite heavy, and built up of laminae of hot-hammered native copper. In cross section it is thick in the middle and curves to squared sides; in longitudinal section it curves to a double-beveled bit.

This mound is not an isolated example in Georgia. Reports from northern Georgia describe numerous ones and there are two or three other stone enclosures. The mounds in Putnam County, described to us by Dr. C. C. Harrold of Macon, are similar, even to the curious depression in the center. The two eagle-effigy stone mounds in Georgia, described in an early number of the Smithsonian Miscellaneous Collections should probably be classed with them. The eagle effigy near Eatonton had a depression in the center of

its "breast" which was unfortunately filled up when the site became government property.

These stone mounds have two things in common: (1) they are found, not in the river bottoms, but on the crests of low hills, and (2) although it may be a fortuitous association, the only pottery found near them are fragments of a simple-stamped ware. Dr. A. R. Kelly, in trenching around the eagle-effigy mound, found nothing but fragments of this type of pottery, and in his opinion the mounds and the pottery should be associated. The writer found several sherds at the Shaw Mound.

Sites with "Simple-Stamped" vessels are found chiefly on hill tops above Atlanta. These vessels have plain rims, are conoidal in shape, and frequently have tetrapodal supports. The pottery is sand-tempered. Occasionally, sherds of early Swift Creek Complicated Stamped or Deptford Linear Check Stamped are found at these sites. It is interesting to note that simple-stamped pottery was an important minority ware at the Deptford Site in Chatham County, Georgia. Artifacts from the surfaces of these relatively pure sites include "boatstones," the Adena-type bar gorget, plummets, rock crystals, and, on two occasions, baked-clay figurines. Both figurines are quite different in "feel" from those found at Etowah. They are much more reminiscent of the figurines from the Turner Mound Group in Ohio. Projectile points from these sites are characteristically tapered and stemmed and frequently have a concave, fish-tail base. Barbs are never prominent. It will be noted that all of these artifacts. are types which are becoming assignable with increasing accuracy to the time interval in the Southeast following the archaic shell-mound, atlatl-using cultures of Kentucky, Georgia, Alabama, Florida, and Louisiana and preceding the Middle Mississippi expansion, as represented by the Macon Plateau period at Ocmulgee Fields, Macon, Georgia. This interval is presumably the one in which the burial complexes of the Adena and Hopewell "cultures" fall.

Thus, it seems most likely, in the light of direct evidence from the Shaw Mound and of indirect evidence from comparable sites, that there existed in Georgia a complex probably contemporaneous with Hopewell in Ohio, "Copena" in Alabama, and Marksville in Louisiana. No proper work has ever been done in this area or at this type of site. An adequate program of work should be directed (a) at the stone mounds of northern Georgia and (b) at the "hill top" sites characterized by the presence of predominantly simple-stamped ware.

A. J. Waring, Jr., M.D.
Savannah, Georgia

## AN UNUSUAL ONEOTA VESSEL FROM MINNESOTA

The late George Chamberlain of Lynd, Minnesota, reported a unique vessel in the *Minnesota Archaeologist*, Volume 8, Number 4. The drawing which accompanied this article engaged my attention, and, through the courtesy of Mr. Chamberlain and Mr. Ernest S. Macgowan, Secretary of the Minnesota Archaeology Society, a photograph (Pl. XVIII, upper) and additional drawings of the vessel were secured. The vessel was obtained in 1934 from a previously disturbed small mound near the town of Lynd, in Lyon County, Minnesota. The vessel was resting in the right hand of one of the skeletons, four feet beneath the center of the mound. As is often the case with Oneota burial vessels, this specimen is small, having a height of 3¼ inches and a diameter of 5 inches. It is shell-tempered, and the exterior surface is well smoothed. The rim is straight and almost vertical. The vessel had two small loop handles (one handle is missing) attached at the lip level and at the base of the rim. One of the two striking features is the presence of three horizontal slots in the rim a short distance beneath the lip. There is a very distinct shoulder line which is accentuated by a horizontal row of broad finger impressions, producing a pie-crust effect. This is also an unusual feature. The design on the shoulder area is within the range of decorative practices of the Oneota potters, but presents, nevertheless, some unusual features. The design consists of adjoining equilateral triangles which are based alternately at the rim line and the shoulder line and are filled with oblique hatching of parallel incised lines. The groups of lines slant alternately from left to right and from right to left. This design is delimited by a horizontal incised line at the base of the rim and by the pie-crust row of finger punctates at the shoulder line.

A somewhat similar vessel was excavated from the Mitchell site in Davison County, South Dakota, by the University of South Dakota Museum expedition in 1938 (Pl. XVIII, *lower*). Most of the material from this site is related to the Mill Creek aspect of northwestern Iowa. Associated with the right hand of Burial No. 7 in Mound 1 there was a very small shell-tempered Oneota jar which has two small loop handles and four rim slots. It has a decoration composed of closely spaced broad finger or thumb impressions giving a pie crust effect around the prominent midline of the vessel exactly like the Minnesota specimen. The design on the Mitchell jar is closer to the typical Oneota style, as it has on the shoulder area an incised upward-pointed chevron design with punctates bordering the upper chevron. Beneath each of the rim slots and on the shoulder area there is an incised equal-armed cross. The upward-pointing chevrons with punctates along the border of the upper member of the chevron group is more common in sites of the Orr focus of southeastern Minnesota, northeastern Iowa, and southwestern Wisconsin than it is in the Oneota sites in central Missouri, northeastern Kansas, and southeastern Nebraska. The incised cross, however, is more common in the latter area. This Oneota specimen helps to date at least a part of the Mill Creek complex, for the best authorities would place Oneota in the seventeenth century.

These are the only two examples which have been observed possessing horizontal rim slots. Their appearance within a relatively short distance of each other and on vessel types which are very much the same suggest the possibility that this is an example of an individual's treatment of pottery which did not become accepted as a style in her group. There is a definite possibility that the two vessels were made by the same person.

The Ioway Indians are known to have occupied a considerable area in southern Minnesota, both in the area along the Mississippi, south of St. Paul, and to the west, in the general area of Lyon County. Archaeological material from sites in Houston, Fillmore, Wabasha, and Goodhue counties along the west side of the Mississippi, from Blue Earth and Faribault counties in south-central Minnesota; and from Crow Wing and Mille Lacs County in the central part of the state—plus this recent find in Lyon County—gives a good idea of the known distribution of Oneota material in Minnesota. In view of the association of the Oneota culture with the Ioway and Oto Indians in Iowa, it is quite likely that the Oneota sites in Minnesota also are the remains of the Ioway-Oto occupation.

Artifacts from stone mound near Cartersville, Georgia.

*Upper*, the Camden Vase from near Lynd, Minnesota (height, 3¼ inches); *lower*, Oneota vessel from Mitchell site, Davison County, South Dakota (height, 2 inches) (Photo courtesy of W. H. Over, University of South Dakota Museum).

The excavations along the west side of the Mississippi at Cannon Junction recovered not only sherds of the Oneota type, but also a few examples which certainly belong to the Middle Mississippi style found in the Old Village focus at Cahokia, in northwestern Illinois, and at Aztalan, Wisconsin. The vessel from Lyon County, called by its discoverer the Camden Vase, has a number of features suggestive of the decoration on the Old Village pottery at Aztalan. The shoulder area is strongly marked; this is not a typical character of Oneota but does belong in the Old Village-Aztalan period. The design on the vessel is fairly close to that seen at Aztalan and it is clearly limited to the shoulder area, which is again a feature of Old Village-Aztalan style and not of Oneota. However, the rim shape is almost diagnostic of Oneota, and the loop handle with short, incised, vertical grooves is also an Oneota characteristic. In conclusion, it can be said that the Camden Vase is an interesting example of Oneota pottery, though there are a number of unique features which serve to set it apart from the more common Oneota types.

James B. Griffin
Museum of Anthropology
University of Michigan

## INDIAN CURIOSITIES

Mr. Paul Weer recently sent us a letter enclosing "an interesting item describing an expanded-center Adena gorget in situ with a copper gorget." It is taken from the *Western Christian Advocate*, Vol. 13, No. 27, p. 107, Cincinnati, Ohio, October 16, 1846.

"A correspondent of the *Louisville Journal* gives the particulars of the opening of an Indian Mound, Mt. Sterling, Kentucky, which contains some curiosities differing from those heretofore found. An extract below will give an idea of these curiosities. In another part of the letter he speaks of a lead bullet being found ten feet under the surface—also copper ornaments.

"'Last fall, when it was first resolved to remove the mound, it had not been dug into more than nine or ten feet before several fine specimens of isinglass were discovered. This excited curiosity, and strict attention was paid to all subsequent removals. The cold weather, however, setting in, stopped the project until the opening of the spring, when the work was again commenced and has been going on ever since. Several skeletons have been dug up at different times in a good state of preservation; the teeth, particularly, had the enamel on them apparently as perfect as ever. They were buried without any uniformity, some with their heads towards the north, some towards the south, and some sitting up. These were thought to be considerable discoveries, and indeed they are, for they prove incontestibly that the mound is of artificial origin; but, in speaking of them, the half is not told. Some six weeks ago, near the centre of the mound, on the original surface, the appearance of two skeletons was discovered. The dirt was then carefully taken away from one, and there was found about its neck a great number of small sea or lake shells about the size of a periwinkle, with the sharp end ground off so as to string them for the neck. The most superficial examination of them will convince any intelligent man that they have had their origin in the sea or lakes. After the removal of this one, the other was carefully exhumed, and a like quantity of beads were found about its neck and breast, but of an entirely different kind. They are round, with a hole through them, and are made of solid ivory-like kind of bone, with a very fine polish. There has been great ingenuity, too, in their make; they begin with a very large one in the middle of the strand, which has one edge much narrower than the opposite one, the rest being strung on at each end of the strand, and made pretty much after the same fashion, but, gradually diminishing in size, formed a round ring precisely fitted to the neck. The number found shows that the same neck wore several strands. But upon the breast of the same skeleton was found a breast-plate of copper, with a beautiful piece of apparent marble, neatly worked to fit upon it mechanically. It is an oblong square, scalloped on the sides and ends, and rounded on the corners, weighing seven ounces and a half precisely. It is six inches and a half long, and four inches and three-eighths in width at each end. There are two holes in the middle of it about an inch and a half apart. The piece of stone weighs seven ounces and a quarter. It is five inches and a half in length, and one and an eighth in width at each end, and two in the middle. It has two holes through it corresponding to those upon the breast-plate, and fits down upon it with a flat side, the upper part being oval. The holes are an eighth of an inch in diameter on the flat side, but coming through to the upper oval surface, a pin head would fill either of them; they are drilled so smooth and neat it would beggar human ingenuity to excel them at the present time. Immediately under the back of the skeleton a whetstone was found three and a half inches long, and two and a half broad. It is an excellent piece of sand-stone, and has the appearance of having been greatly used.'"

# BOOK REVIEWS

*Navaho Witchcraft.* CLYDE KLUCKHOHN. (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University. Vol. XXII, No. 2. 149 pp. Cambridge, Mass., 1944.)

An extremely significant contribution to the field of ethnology is made by Dr. Kluckhohn in this comprehensive study of folk belief in witchraft and its effect on Navaho social organization. Witchcraft is one phase of Navaho culture which has heretofore been touched upon very briefly, principally because of the difficulty of securing information about it. Navahos are extremely reluctant to discuss these matters, being tormented by the fear that conversation about such a dangerous subject might throw them open to suspicion, hatred, and revenge from alleged witches. The author's discussion of how the data were obtained and the investigator's role in surmounting obstacles offers an illuminating account of the psychology used in securing information about which people are hesitant to speak. Archaeologists who use Navaho labor on their excavations will profit by this section and will discover throughout the book many things to assist them in understanding and dealing with some of the problems which confront them, such as the Navahos' seemingly unreasonable reactions to such activities as uncovering a burial.

Dr. Kluckhohn merits particular praise for the integrity with which he has applied and demonstrated his own theory of how ethnological information should be studied[1] by collecting an amazing amount of precise material over a long period of years giving his generalizations a quantitative basis, citing cases in detail, and by distinguishing between statements, anecdotes, accusations, and actual observed behaviors. Finally, he scrupulously separates his data from the interpretation of it and organizes it in such a way that the student can distinguish clearly between "fact" and "inference." Consequently there can be no such confusion in the mind of the reader as some ethnologists have been guilty of producing.

Following an introduction which sets forth its purposes and limitations, the monograph is divided into three parts. Part I (pp. 9–35) presents direct inductions from the field materials together with an account of how they were obtained. Part II (pp. 39–72) is an essay in structural dynamics, offering inferences and interpretations as to the dynamics of Navaho social organization. Part III (pp. 75–142), the appendices, includes the field notes, given verbatim with a minimum of editing, classified to correspond with the data in Part I and numbered in sequence for easy reference. An extensive bibliography concludes the monograph.

The author defines witchcraft as "Navaho ideas and action patterns concerned with the influencing of events by supernatural techniques that are socially disapproved," and classifies these practices into four recognized categories: Witchery, Sorcery, Wizardry, and Frenzy Witchcraft. Two other types are also mentioned as being related to Sorcery, namely Disease Witchcraft, and Eagle Pit Sorcery. Each type has certain specific activities and concepts associated with it.

Witchery is associated with the secret administration to the victim of "poison," made from corpse flesh, which produces dramatic symptoms such as fainting, lockjaw, and immediate unconsciousness. Envy and the desire for wealth are the principal motives for becoming a Witch, since grave-robbing and fee-splitting (between ceremonial practitioners) are supposedly practiced. Night-traveling, were-animals, the witches' Sabbath, cannibalism, necrophilia, incest, and the killing of a sibling as an initiation fee are also associated with witchery.

Sorcery is based on the enchantment of the victim by means of an evil spell. A bit of the victim's clothing or personal offal must be obtained and buried under a lightning-struck tree (while reciting the spell) with material from a grave. Images are also made and pierced in vital spots to cause injury or death.

Wizardy involves the "shooting" of objects into the intended victim, either through a tube or by incantation. This is considered a recent practice and curers from other Southwestern tribes are often employed to suck out the alien object. The rich appear prominently as victims.

Frenzy Witchcraft is concerned with the use of plants for success in love, trading, and gambling. It is generally directed against the rich and is associated with the killing of a sibling, sister-incest, and collusion between singers and diagnosticians. Prostitution Way chant, which seems to be nearly extinct, is reputedly used as a cure, and there is a type of *Datura* divination which is sometimes called by the same name.

Disease Witchcraft and Eagle Pit Sorcery supply only meager data, but the former appears to be associated with Game Way and the latter with Eagle Way.

Protections against witchcraft include the possession of ceremonial equipment, knowledge of songs and prayers, and the specific *gall medicine*. Curing can be accomplished through the confession of the witch, through ceremonials, and by Sucking Way. The cure is actually not complete, in the final analysis, unless the witch dies, and accounts show that the Navaho consider witchcraft a crime which merits capital punishment.

Dr. Kluckhohn notes that, although there is no record of any white observer having seen a Navaho practice witchcraft or use witchcraft paraphernalia (except that Fr. Berard reports seeing a Sucker's equipment and Van Valkenburg has found an image suggestive of Sorcery), there does exist a whole assemblage of behavior patterns which could only make sense on the basis of a "belief" in witchcraft as a force to be feared. Considering all the evidence, it is the author's opinion that without doubt Frenzy Witchcraft using *Datura* is practiced, and Sorcery incantations are attempted. He doubts, however, the existence of the witches' Sabbath and does not believe that Wizardry is practiced, although he suspects that graves are robbed.

In the interpretation of his data Dr. Kluckhohn has confined himself to one of several possible analytical approaches, although he suggests others which might profitably be made. In Part II, Section 3, he presents a structural analysis developing the hypothesis that "the euphoric effects of the witchcraft pattern assemblage are considerable, perhaps even outweighing the dysphoric effects at the moment." This is in contrast to the opinion held by many anthropologists that malevolent practices must of necessity be "bad" for a society. He demonstrates that data on Navaho witchcraft bear a determinate relationship, rather

[1] Clyde Kluckhohn, "Theoretical Bases for an Empirical Method of Studying the Acquisition of Culture by Individuals," *Man*, 1939; "Patterning as Exemplified in Navaho Culture," *Language, Culture, and Personality*, Menasha, Wisconsin, 1941, p. 109.

than a haphazard one, to such things as the physical environment, economic problems, health of individuals, and methods of socializing the child. He points out specific latent and manifest functions of witchcraft for both the individual and society, showing how witchcraft serves as a technique for re-establishing the ego of the individual, acts as a legitimate expression of culturally disallowed impulses, allows the expression of direct and displaced antagonisms, alleviates anxiety, offers socially approved objects toward which hate may be directed, and serves as an effective technique for social control. He does not overlook the "cost" of witchcraft to the Navaho in terms of projected aggression and social disruption but places it in the proper perspective.

He closes this discussion with a number of "cautions" for the reader to bear in mind as he considers the total problem. These in themselves illustrate the intellectual integrity with which Dr. Kluckhohn has handled his subject.

After studying the data presented, Southwestern archaeologists should be on the watch for any tangible evidence of witchcraft paraphernalia. Since the comparatively new field of Navaho archaeology has been opened for investigation, there should be increasing opportunities for documenting legendary and folk belief with material evidence. With this in mind, the archaeologist will be interested in the fact that references made by the informants to witchcraft legends and anecdotes associate these with the Canyon de Chelley region in particular, and also with the Tuba City, Black Mesa, Shiprock, and Cañoncito areas more frequently than would be expected if places were mentioned at random. Since there is also some basis for postulating a possible Pueblo origin for some aspects of Navaho witchcraft, perhaps some of the Navaho archaeological sites which are found associated with Pueblo remains might offer valuable clues as to the origin of certain practices. Van Valkenburg has found an image allegedly used for Sorcery (see p. 18), and possibly there are other evidences to be found.

Among the specific things which an archaeologist might watch for are: a cave associated with witchcraft located in a canyon just south of Tsegi' near Chinle (p. 134); human skulls stored in a cave (p. 16); sand paintings on top of a hill or in the timber to the north of a hogan (p. 18); clay or wooden images into which have been "shot" a sharp-pointed object (pp. 18, 135); pictographs of human figures with alien objects inserted (p. 138); "small bows made of the shin bones of dead people" (p. 134); objects used for "shooting" the intended victim (pp. 93–94); and "caves" which might contain materials for sand and body painting, jewelry, or animal skins, in addition to the other witchcraft paraphernalia mentioned.

There is much valuable material in this monograph for psychologists, linguists, and sociologists as well as for anthropologists, and we are grateful to the Peabody Museum of Harvard University for making it available.

FLORA L. BAILEY
Tuscan School
Maplewood, New Jersey

*Piedras Negras Archaeology: Architecture.* LINTON SATTERTHWAITE, JR. (University Museum, University of Pennsylvania reports. Four reports separately bound titled as follows: Part I, No. 1, Introduction, 1943; Part II, Temples, No. 1, 1944; Part IV, Ball Courts, Nos. 1, 2 and 3, 1944; Part VI, Unclassified Buildings and Substructures, Nos. 1 and 2, 1944.)

These publications on eight seasons of work by the University of Pennsylvania are best described as a series of "reports" in the narrow sense of the word. In them Satterthwaite commences the record of a major undertaking. His point of view is that of the digging archaeologist feeling his way into a large unsurveyed site, with limits on time and available labor. He does not hesitate to comment freely and broadly but is never dogmatic, and he has an attractive habit of mentioning field errors and how he was often obliged to change his point of view as actual excavations disproved original assumptions. Serial publication is planned, evidently with the idea of avoiding delay in releasing these data. Satterthwaite was field director during six of the eight seasons, after working under J. Alden Mason during the first two.

Coming to the material itself, it is well to review the actual work done by University of Pennsylvania at this site, and its background. In the Maya area, other institutions had done intensive work at several points, notably Chichen Itza in northern Yucatan, Copan far to the southeast, and Uaxactun near the center. Located well to the west, Piedras Negras is wisely chosen for rounding out a geographical picture, as well as for its architectural importance and wealth of monuments with their inscriptions.

Some sixteen stelae and other monuments were removed to Guatemala City and Philadelphia during the first two seasons for preservation and study, and then principal attention was turned to map making and architectural data. Important ceremonial centers cover a rectangle of 600 by 1200 meters, the highest being 90 meters above the Usumacinta River, which flows along the western edge. Satterthwaite summarizes the general objectives of the project substantially as follows:

"Naturally, from the start it was hoped to get some notion of the buildings, ceramics, burials and general archaeology of a site which had produced such outstanding sculpture. The original plan was for two seasons only, and a sampling technique was pursued. It was then decided to continue, and six additional seasons followed. During this second phase, the sampling approach was combined with more or less complete excavations at some spots; or more usually, as emphasis on particular problems shifted or expanded, repeated samplings at one spot came to represent a more nearly complete excavation. During this period the main objective was architectural, and specifically to obtain a complete picture of the latest structures making up the main ceremonial groups. This has largely been attained."

Part I, No. 1, entitled "Introduction," fills its expected function and includes a carefully compiled vocabulary of architectural terms. Its Figure 3 is a separate map of the area, 28 inches×60 inches, accurately drawn and with contours for every two meters of elevation. It is accompanied by cross sections of conventional type in Figure 2. These maps, an expected adjunct to such a text, are supplemented by a frontispiece, Figure 1, which is an important contribution to Maya archaeology. The figure is a restoration of the acropolis in perspective view that enables the general anthropologist to visualize the character and grandeur of this ceremonial center. The author says of it, "Apart from some unexcavated details, and theoretical restorations of destroyed features, we can claim that this Figure 1 is literally true and accurate, as of the time of abandonment. It is not a mere 'artist's conception.'" The drawing is by Miss Proskouriakoff.

Part II, "Temples, No. 1: Structure R-9," is the description of a single typical Maya "temple" structure, including its two-terraced pyramid and basal platform. This is a detailed archaeological record of a badly ruined pyramid

which, however, gives some promise of helping to establish chronology in the "Southeast Section."

Part IV, entitled "Ball Courts," is a report of a more general nature and will be of interest to any student of this type of structure. Until recently, ball courts were supposed to be a "Mexican" feature, and their presence elsewhere to indicate intrusion of Mexican traits. However, they are now known to exist as far north as the American Southwest, and they appear at a number of Old Empire sites, such as Uaxactun and Copan, which antedate the so-called "Mexican influence." This detailed report on two ball courts at Piedras Negras, a strictly Old Empire site, should be given emphasis in this review both because it is an addition to data and also because their character is compared with that of other ball courts. A four-page introduction entitled "Ball Court Terminology" further broadens the scope of this text.

Satterthwaite here develops from his Piedras Negras experience an interesting explanation of the methods probably ured by Maya artisans in laying out their buildings. He finds that the layouts are usually quite accurate parallelograms, but that they are not consistently rectangular. The builders usually failed to make square corners, but they seldom failed to make opposite sides equal. He concludes that rectangles were desired by the architects, but that they had no better method of constructing a right angle than by judging it visually. However, after laying out two adjoining sides of a quadrilateral, there was little further error, presumably because they transferred their lengths and widths by means of a cord of fixed length or some similar device. This insured fairly accurate parallelograms which might or might not be rectangles.

Part VI, "Unclassified Buildings and Substructures," gives the data on two structures of a minor nature.

This collection of reports is a painstaking beginning of an attempt to preserve the essential details of the field records of eight seasons of work. The manner of presentation is something of an experiment and seems successful. The drawings are good and are well supplemented by isometric projections, and the photographs are well selected and clearly reproduced. The offset printing used is satisfactory, a small heavy-faced type which allows as much as nine hundred words to the page having been selected. It is the most finished job of offset work that the reviewer has yet seen.

The bulk of the text is in too much detail to allow satisfactory reviewing, and the Middle American specialist will need these reports in full. Parts can be obtained as issued, in advance of publication of the projected complete set, by subscription to the University of Pennsylvania Press. For the general archaeologist, the introduction, Part I, No. 1, should be of interest for its discussion of Uaimacinta valley territory as well as its illustration of the points touched upon here. The bibliography for Piedras Negras is of especial value. When completed, this series of reports will form an important section of the basic source material of Maya archaeology. Satterthwaite's presentation is objective to an extreme degree, and he never leaves the reader in any doubt as to which items are facts, and which are interpretations. Where sufficient data were not obtained, he frankly mentions whether it was due to oversight, shortage of time, or other cause. Throughout his recording, he shows an open-mindedness that gives the reader absolute confidence in his ability and willingness to make his records purely objective.

LAWRENCE ROYS
Moline, Illinois

*An Introduction to the Archaeology of Cuzco.* JOHN H. ROWE. (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. XXVII, No. 2, xii, 70 pp., 19 text figures, 8 plates, Cambridge, 1944. $2.50.) (Project 7, Institute of Andean Research under sponsorship of the Co-ordinator of Inter-American Affairs.)

The title of this paper may seem pretentious in view of the extensive work done by Hiram Bingham (1911–1916), Luis E. Valcárcel (1934), and Paul Fejos (1940–1942), but from a rounded archaeological point of view it is precisely an introduction. Previous workers have devoted their major efforts to clearing some of the large ruins or, in some cases, to general speculation. When Rowe started his work, no pre-Inca materials had been found in the Cuzco region, nor were there any convincing subdivisions of Inca ceramics. Rowe has contributed both. His monograph presents a description of the pre-Inca Chanapata Period, a detailed analysis of Inca masonry together with plans and descriptions of the Temple of the Sun in Cuzco and the ruins of Huanacauri nearby, the results of test digs in Inca sites, a reconnaissance of two large areas near Cuzco, a classification of Classic Inca ceramics, and a brief description of Early Inca ceramic types.

The Chanapata Period is clearly isolated at the type site and has also been found at four other sites in the region. All are refuse sites, although flexed burials in circular, unprepared pits are associated, as well as some rough retaining walls and platforms of field stone and a flagstone pavement. The ceramics are largely from cooking pots (80 to 95 per cent). Sherds are monochrome black or red, from globular ollas, plates, and bowls with thickened rims. The decoration includes incision, punctating, appliqué modeling, and a small percentage of white on red and red on buff painted design. Most of the designs are geometric, but modeled animal adornos and some feline motifs are included. No metals have been found with Chanapata, but bone work, including awls, points, and spear-throwers, is common, and there is some simple stone work.

The Chanapata Period is stratigraphically pre-Inca, but the materials bear no resemblance to known Inca styles. Likewise, Tiahuanaco affiliations are lacking. Rowe compares the materials to Chavin (monochrome ware, incision, and thickened rims), to Chiripa (adornos, bone tools, and simple painted designs), to Pucara (the style of appliqué animal adornos), and to the Chancay White-on-Red. Although further evidence is needed, it seems likely that Chanapata represents an Early Period in the relative Peruvian chronology.

Inca ceramics are classified by shapes and designs in terms of a Cuzco series and a Killke series. The Cuzco series corresponds to the Late or Imperial Inca and is tentatively dated as *ca.* 1438 to *ca.* 1532. The Killke series is distinguished by simpler designs, a more limited color range and less precise painting, and is dated as Early or Provincial Inca 1200(?) to *ca.* 1438. The basis for these dates is discussed briefly and has been treated in more detail in an article in AMERICAN ANTIQUITY (Vol. 10, No. 3, 1945, pp. 265–284).

This monograph presents only part of the extensive work by Rowe in the Cuzco area, so more detailed reports will follow. The Cuzco region is a particularly fertile field of study for a man trained in both history and anthropology.

WENDELL C. BENNETT
New Haven, Connecticut

*Peruvian Archeology in 1942.* A. L. KROEBER. (Viking Fund Publications in Anthropology, No. 4, 152 pp., 48 plates, 8 figures, New York, 1944. $3.00.)

This monograph is not a summary of Peruvian archaeology nor a review of recent work, but rather a series of annotations on the total field. The immediate basis for the report was Dr. Kroeber's two-month trip to Peru in 1942, during which time he covered the coast from southern Arequipa to Lambayeque in the north. The discussions, however, are not limited to this recent trip but include ideas originating from his previous field work, from his many publications on the Uhle collections at the University of California, from his conferences with Peruvian archaeologists and with North American students on the Institute of Andean Research program, and above all from his masterful knowledge of the archaeological literature and materials. The annotations are presented in the order of his trip, namely from the south to the north coast, and highland archaeology is included, although the highlands were not part of the itinerary.

A detailed review of each site and topic is not practical, but some of the outstanding contributions of new materials, and some of the more pertinent discussions can be noted.

Many sites, collections, and styles are here described and illustrated for the first time. The Churajón ware from sites near Arequipa is classified and illustrated. These black, white, and red designed pitchers and goblets are shown to be related clearly to the Chilean Atacameño rather than to the dubious and somewhat mythical Chincha-Atacameño style. The Chuquibamba culture, also from sites near Arequipa, is composed of mixed materials with both Inca and Tiahuanaco affiliations. There is no convincing evidence that Chuquibamba is a united style or period. In the Ica valley, Kroeber describes and illustrates for the first time the collections from Ocucaje. These ceramics are of great interest, since they pertain to the Paracas-Cavernas style and serve to isolate it as a unit.

On the north coast, a new analysis of the stone carving at Cerro Sechín, in Casma valley, is presented. Kroeber considers that some incised and punched-surface sherds are contemporaneous with the carvings. Other new materials include the illustrations of vessels of the little-known Cajamarca style and the heretofore unpublished data on the nonceramic artifacts in the Uhle collections from Supe-Ancon and Moche. Finally, the classification of all published stone carvings from Chavín is an important contribution. Five groups of flat-slab carving are distinguished, and some tentative chronological suggestions made.

Many problems of chronology are discussed in this report. For the southern coast, Kroeber arranges the three early periods in a sequence of Paracas-Cavernas, Nazca, Paracas-Necropolis. On the central coast, the discrepancy between Tello's and Kroeber's interpretation of the sequence at Teatino is reduced to a difference in terminology. The early northern coast periods are chronologically arranged as Cupisnique (Coast Chavín), Salinar (newly discovered), Mochica, and Negativo (Gallinazo), although the position of the last-named is still in doubt. The north coast middle and late periods are slightly rearranged, and the discussion is summed up in a chart. For some reason the Lambayeque One site is omitted from the chart, although it is included in the discussion. Even if Kroeber does not accept Lambayeque One as a middle period site, he should at least consider it as an isolated unit of pre-Inca Chimú.

In the final section on historical relationships, horizon styles are discussed and a chronological chart for all Peru is presented. The old horizon styles were Inca and Tiahuanaco. New possibilities include Chavín, Negativo, White-on-red, and Nazca B-Y. Resist negative painting may mark an horizon, but Kroeber faces so many inconsistencies in his attempt to interpret this that the addition of still other occurrences of negative painting, such as in Mochica and in Wilkawain-Tiahuanaco, would not improve the situation much.

A report of this sort has long been needed to bring Andean archaeologists up to date, not only on new discoveries, but also on new interpretations. Kroeber has done a masterful job of clearing the field and paving the way for Peruvian archaeology after 1942.

WENDELL C. BENNETT
New Haven, Connecticut

*Vistas arqueológicas del Noroeste del Perú.* H. HORKHEIMER. (Instituto Arqueológico de la Universidad Nacional de Trujillo. 83 pp., 83 figures, map. 30×23 cm., linen. Trujillo, 1944.)

This is the first publication of the new Archaeological Institute of the northernmost of the four national Universities of Peru, by its Director, with the encouragement of Rector Meave. The first half of the monograph is a review of the history, prehistory, and languages of the northern coast and nearer Sierra. It is sound but will inform and interest the intelligent layman rather than the specialist in Peruvian antiquities. The second half consists of a long series of photographic illustrations, interspersed with a few plans and drawings, most of them never published before, each accompanied by a text varying from two lines to half a page in length. This half is straight archaeology and, as it contains a great deal of new information, will interest every Peruvianist. The list that follows indicates the range and nature of the data shown in this part.

Fig. 2, furnace, presumably for smelting, at Túcume (Purgatorio), above Lambayeque.
Fig. 3, feline embossed on gold, round lines, Tiahuanocoid (?) teeth; Lambayeque Museum.
Fig. 5, 6, adobe "frieze" or arabesque, Huaca Chotuna, near Chiclayo.
Fig. 7, rock-cut tombs, Otusco, 1.5 leagues NW of Cajamarca.
Fig. 8, "Inca throne," cut from bedrock, overlooking Cajamarca.
Fig. 10, 11, rock-hewn ditch, Kumbemayo, 2 leagues W of Cajamarca, elevation 3700 m.
Fig. 12, masonry with niches, pillars, and lintels, on cerro directly above Chepén.
Fig. 14–19, stone ruins of Tantarica, Trinidad, Contumazá.
Fig. 20, stone statue, 50 cm. high, Catán, SE of Tantarica.
Fig. 21, slab, 91 cm. long, with feline relief carving, San Lorenzo, near San Benito, Contumazá.
Fig. 22–28, Marca Huamachuco, including stone feline head, 25 cm. high.
Fig. 29, 30, pair of sculptured human heads, unusually realistic, Santiago de Chuco, 3178 m. These are among the best full-round pieces yet found in Peru.
Fig. 31–35, rock-hewn seat, cubicles, tombs on El Huallío, 4000 m. cerro near Cachicadán, Santiago de Chuco.
Fig. 36, slab, 43 cm., with relief of feline rampant (Recuay design position, but without head appendage), Santiago de Chuco.
Fig. 37, 38, sculptured stone heads, in manner of Figs. 29–30, thus confirming these as a definite type; also from vicinity of Santiago de Chuco.
Fig. 43–70, various from Chanchan; including Fig. 44, map; Figs. 47–48, 57–58, 60–68, adobe relief "friezes"

or "arabesques," some newly found. These look as if they had been cut into a layer of fresh mud or stucco.
Fig. 71–73, Moche "Sun" pyramid, calculated to contain 50 million adobes, shown as laid in "towers" or columns.
Fig. 75, stone axes from Quirihuac, on Trujillo-Marañon highway.
Fig. 77–82, Virú Valley, including Queneto megalith enclosure.
Fig. 83–84, adobe construction on Cerro San Ramiro, Santa River.

It is evident that the volume is one that will be wanted for reference in every American archaeological institution whose interest transcends merely local activities.

A. L. KROEBER
University of California

*Delaware's Buried Past*. C. A. WESLAGER. (University of Pennsylvania Press, pp. ix+170, map, illustrations, Philadelphia, 1944.)

This book of 170 pages and fifteen illustrations is attractively printed and bound. There are eleven chapters, a preface, and a bibliography of seventy-three titles.

The author is a businessman and contributor to several scientific journals, as well as a feature writer and an amateur archaeologist. As president of the Archaeological Society of Delaware, Mr. Weslager has done much to interest the people of Delaware in the prehistory of their state and, as an author, he has made a real contribution to the archaeological literature of the eastern seaboard. His style of writing is delightful to one who likes to pause in the midst of serious study for an occasional romantic glance into the past. Although conservative in concept, the book presents a living contact with the past which is exhilarating to the reader. To interested laymen, this book will not only be of absorbing interest, but it will be used as a textbook on method and procedure; to the professional archaeologist, it will be a revelation of what intelligent amateur work can accomplish.

In his opening chapter Mr. Weslager presents a brief but accurate account of the natural environment of prehistoric Delaware. The next few chapters are an introduction to the early workers in the Delaware field and a discussion of their labors. The reader becomes acquainted with Dr. Joseph Leidy, probably the first to engage in scientific research in Delaware; Francis Jordon, an amateur, who searched for early man with great success from 1870 until 1911; Hilborne T. Cresson, who had so much to do with the heated controversy on early man in Delaware prior to 1894; and Joseph Wiggiesworth, pupil of the late Dr. Warren King Moorehead, mentor and friend of the author, and owner of the largest collection of Delaware Indian artifacts. The body of the book is devoted to a description of various sites upon which the author has worked, the various methods used in excavation, and the results of his labor. Mr. Weslager has demonstrated a delightful ability to make the reader feel as if he were one of the field party as he conducts it from site to site and from experience to experience.

The book concludes with a well-assembled glossary of the types of artifacts to be found in Delaware and a description of the various materials from which they were made.

As an interesting discussion of the archaeology of Delaware and as an excellent guide for nonprofessionals who desire to assist rather than to hinder archaeological research in any area, I would unhesitatingly recommend this book.

MAURICE ROBBINS
Attleboro, Massachusetts

*Social Life and Religion of the Indians in Kitimat, British Columbia*. IVAN A. LOPATIN. (University of Southern California, Social Science Series, No. 26, pp. 118, illus. Los Angeles, 1945.)

The villages of the Kitimat Indians of the Northwest Coast lie along the upper arm of Douglas Channel, just south of Prince Rupert and the Skeena River. Situated as they are in a key position between the Kwakiutl and the Tsimshian, there is perhaps no local group of the area more worthy of study.

During his four month visit in 1930, Professor Lopatin worked closely with the few white residents of the reserve and he used several male Kitimat informants. Part of his time was taken up as postmaster, yet he found time for some direct observations of everyday life, and from his account of these one judges that much of Kitimat life is still functioning. A thorough ethnological study would, therefore, be all the more welcome.

After anthropologists have spent fifty years of intensive work on the Northwest Coast it is startling to find an anthropological study which seems to have been done with so little awareness of what has already been accomplished. Such sentences as "The animal after which each clan is called is in some mysterious way associated with the clan" (p. 21) seem oddly at variance with modern science. On the other hand, the writing reveals a sincere and objective point of view which is reminiscent of the best of the early contact literature, and much valuable information is scattered through the book.

There is, for instance, modern evidence of strong matrilineal organization with matrilocal residence strictly adhered to, at least until the birth of the first child. Details suggestive of northern ties also occur in other realms of Kitimat behavior. Indeed, the impression of northern affiliation is so strong in the material presented here that one suspects the position of the Kitimat should be reexamined by anthropologists. They are usually described, on the basis of their language, as a local Kwakiutl group, but it now seems possible that many of their ethnological ties are definitely Tsimshian. However, included in the illustrations of the book are three wood sculptures which show clear resemblances to Kwakiutl pieces, so that the linguistic evidence of southern contact is reinforced by the evidence of art style. It is worth noting that both language and art are traits which go deep into the past history of the Kitimat, and it may be that northern or Tsimshian influences have been intensified during the modern period.

At the present time only the most carefully controlled detail can help us materially in a study of the Northwest Coast, and it seems apparent from this study that nothing definitive can yet be said about the position of the Kitimat.

MARIAN W. SMITH
Columbia University
New York City

*Old Oraibi*. MISCHA TITIEV. (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. XXIII, No. 1, xi, 273 pp., 13 figures, 4 plates, 11 charts, 10 tables. Cambridge, 1944, $4.50.)

This monograph is the result of four field trips which Dr. Titiev made to Oraibi. Three of these visits were relatively short summer field trips, but in 1933–1934 Dr. Titiev remained among the Hopi for six months and, to use his own words, "was permitted to live in the old pueblo of Oraibi on top of Third Mesa, and to participate to a con-

siderable extent in the everyday life of the village." In writing the story of Oraibi the author does not depend on his field experience alone. He has mastered the voluminous and scattered literature on the Hopi and, as his many footnotes and references indicate, has been in constant touch with fellow ethnologists who have been investigating one or another of the Hopi settlements.

The study which has resulted is a substantial one of nearly three hundred large, double-columned pages. It is not, however, and perhaps it is not meant to be, a full and rounded account of Hopi culture. The two aspects of life at Oraibi which are described at length are kinship and social organization and ceremonialism, to which the first 180 pages and the first two parts of the volume are devoted. The other two parts of the book are a miscellany and an appendix which contain much additional material on the same two subjects. In other words, one meets Dr. Titiev's Hopi at a ceremony or as a representative of a place on a kinship chart. Children's play, games, humor, the ebb and flow of everyday life, those things which a resident among a people might be expected to emphasize, are scarcely mentioned. Even such an important topic as witchcraft receives no systematic treatment, but comes to the reader's attention only through scattered references to sorcery or charges of sorcery contained in myths or in the statements of informants.

Even in respect to the subjects with which it does deal, the book will seem formidable to those who do not have a specialist's interest in Hopi culture. On the second page the reader finds himself picking his way through a series of Hopi kinship charts and a welter of Hopi kinship terms. A little later he has rehearsed for him the details of the debates among certain scholars over the proper unit to name a clan in Hopi-land, over the number of clans which have existed, and over the reality of phratries. The section devoted to ceremonial life is studded with native terms, footnotes, and refinments of detail and interpretation of particular moment only to close students of Pueblo cultures.

In a number of places, however, the author swings from detailed description to very broad generalization. In one place he asserts that "the religious beliefs and practices of the Hopi have been devised to serve as a supernatural buttress to support the weakest points of their social organization." In another place, more sensibly, he finds not one, but at least five reasons for the Hopi's interest in religion and concludes, "Lack of rain, failure of crops, internal strife, onslaughts of disease, and enemy attacks all combined to threaten the very existence of their society. To offset these dangers . . . they resorted to supernatural means to give them assurance that they would not be destroyed."

One of the chapters is devoted to the story of the split in 1906 between those residents of Oraibi disposed to cooperate with the United States Government and those opposed to any dealings with the Americans, which ended in the ousting of the latter group and the founding of Hotevilla. Titiev attributes this split to the lack of a strong central government at Oraibi and suggests that this "sociological" cause was responsible, at least in part, for the abandonment of Pueblo sites of the San Juan drainage after the Great Period. " . . . the huge pueblos failed to endure," he claims, "precisely because they continued to operate with social structures that were best adapted to small communities."

It is unlikely that this explanation will satisfy archaeologists. It assumes that the present social organization of Oraibi is essentially the same as that of the people of Pueblo II. I doubt that Dr. Titiev or anyone else knows much that is authentic about the social organization of that remote period. Also, Titiev assumes that if Oraibi had had a centralized government it would have surmounted the crisis of 1906. The issue to be decided then—whether an alien culture should prevail over Hopi patterns—was a momentous one. This is the kind of reef on which many a tribal vessel has been wrecked. Towns of the Indians of the Southeast, despite greater centralization of control, many times split or disintegrated when faced with this conflict. Dr. Titiev fails to see that social cohesion can be the equivalent of centralization of control in stabilizing a community. The Hopi, with their interpenetrating pattern of clans, societies, and rituals, had developed a system which could integrate the activity of everyone and minimize conflict as long as underlying conceptions were the same. But, because the welfare of all depended on Pueblo-wide participation, in thought and action, of each person in the socio-religious round, the village could not exist half Hopi and half partisans of the new way. It is not so much that Hopi social organization was weak or amorphous but that it was a closed system. Historical events opened it to shocks which it was never designed to meet.

I would not want to give the impression that this is not a worthy study. It contains much information and much good writing. But the rapid transitions from exacting detail to dubious theory are disconcerting. The insistence upon relating everything to social organization results in an inadequate basic plan of presentation. The reader closes the book with the feeling that Titiev does not quite do justice to Oriabi and that the monograph certainly does not do justice to Dr. Titiev.

MORRIS EDWARD OPLER
Washington, D. C.

*The Excavation of Los Muertos and Neighboring Ruins in the Salt River Valley, Southern Arizona.* EMIL W. HAURY. (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. XXIV, No. 1. 223 pages, 90 plates, 133 figures. Cambridge, 1945. $4.50.)

This report is a study by Haury of material collected in the Salt River Valley, southern Arizona, in 1887 and 1888, by the Hemenway expedition, headed by Frank Hamilton Cushing and financed by Mrs. Mary Hemenway. Due to the failing health of Cushing, work was cut short, and the collection was unfortunately not studied or fully reported on until more than fifty years had elapsed. During this interval, most of the sites were completely obliterated as a result of farming or other encroachments of modern civilization.

The paper is arranged in several sections, as follows: a foreword by F. W. Hodge (the only surviving member of the expedition), an introduction and historical notes, a description of environment and the archaeological background, a description of Classic Period sites and materials found, a description of Colonial-Sedentary Period sites and materials found, a report on several miscellaneous ruins investigated (many of which were scarcely scratched), a report on cave work, and a short chapter of conclusions. Classic sites are Los Muertos (which forms the largest part of the report) and Las Acequias. Colonial-Sedentary sites are Los Guanacos, Los Hornos, and Pueblo de las Canopas. Eight miscellaneous sites are mentioned and reviewed. Cave sites are Double Butte Cave (from which the bulk of the cave material came) and a cave in the Superstition Mountains. Conclusions are largely concerned with

problems raised, especially Hohokam-Salado origins, migrations, mixtures, and their respective fates.

The author was confronted at the outset of his task by the difficult problem of reporting work done by others and by the complete inadequacy of the records. As a result, it is frankly stated early in the report that this is a "largely descriptive" paper. To add still further to the problems of reporting and evaluating this material, the artifacts have become somewhat scattered since they were collected.

Serious work of excavation was first begun on Los Muertos and was carried on in this vicinity for about fifteen months. Most of the work was done on Los Muertos, where by far the largest number of objects were secured and the only really adequate records were made. The bulk of the report (149 pages) concerns this site.

Los Muertos, or more properly El Pueblo de los Muertos (City of the Dead) is located 6.5 miles south of the present town of Tempe, Arizona, in a large, open, flat area which was watered by a series of irrigation ditches leading south from the Salt River. It is reported as having been very large, perhaps 5 or 6 miles long by from one-half mile to a mile wide. Most of the work was in the large mounds composed of surface houses, or compound units. There is a general plan of the area, and there are detailed plans of eighteen of these units. All are of the Classic Period and are very like those found in the well-known site of Casa Grande. Throughout the report, the author makes much effective use of comparative tables such as the one on page 35 in which the architecture of the Soho and Civano phases is compared. A map of the canals serving the area is given, and the problem of canals is discussed.

The inhumations and cremations secured by the expedition are also studied and compared. A critical examination of all cremated bones was undertaken, and remains of individuals were classified as to sex and age, in so far as possible. This is a type of study which apparently gives much promise, for significant results were secured. However, the general physical type of the Hohokam was not definitely determined.

Los Muertos pottery is then examined and discussed in full. The types considered are Casa Grande Red-on-buff, the Gila polychromes (Pinto, Tonto, and Gila Polychrome), Gila Red, Gila Smudged, Salt Red, Salt Smudged, Gila Plain, and various intrusive types. The pottery studies are very good, especially those of designs, which stress design layouts and elements. Comparison of types by means of charts like the one on page 81 which tabulates the various red types is most useful.

The descriptions of the artifacts are equally well done. Double-bitted axes and adzes (all axes are typically well made), perforated stone crushers, arrowshaft straighteners, and very fine specimens of both carved and painted shell artifacts are all worthy of note.

Las Acequias, the second Classic site reported, was located about five miles north and east of Los Muertos. Unfortunately as in the case of the rest of the sites worked, no detailed map of this site was made. It is of the same period and the same culture as that of Los Muertos, and the same sort of things were found here. In all, 525 specimens are listed; but only the most outstanding are discussed and pictured. Of special significance are arrowshaft straighteners, perforated stones, and painted basketry which has been filled to form a proper surface to receive the pigment. It is undoubtedly Salado in origin.

Los Guanacos, about two miles north and west of Los Muertos, is a Colonial-Sedentary site, the first of this period discussed. It was located just at the end of the work and was of particular concern because numerous buried huts were found. These are the typical Hohokam pithouses so characteristic of this period. The name of the site was derived from fifteen clay animal figurines, which Cushing considered to be guanacos instead of the deer they probably represent. There are no detailed architectural or other plans of this site, and apparently no burials or cremations were found. The most interesting objects reported are the fifteen clay animal figurines and small fragments of charred cloth of elaborate design.

Los Hornos, the second site of this period dug, was located about five miles northwest of Los Muertos. Although mounds were found, it is a late Colonial or early Sedentary site which was occupied into Classic times. Again no detailed plans were made of the site, and apparently very few records were kept concerning the work done. The name, "City of the Ovens," was derived from several oven pits of the mescal-pit, or baking-oven, type, similar to those reported from other sites in southern Arizona. Animal and human figurines were also found, as were a copper bell and wooden paddles.

Pueblo de las Canopas, located six miles west of Los Hornos, was another pre-Classic site. Little work was done here, and not many artifacts were found.

Ruins where more or less work was done include La Ciudad de los Pueblitos (now Ciudad Phoenix or La Cuidad), Los Pueblos Arriba, Casa Grande (from which about sixty specimens were secured), Casa Blanca, Pueblo de las Cenizas, and La Presa Antigua. Collections were made from these sites, but no particularly outstanding artifacts were discovered or reported.

As an integral part of the field program, two caves were investigated. Double Butte Cave—the first reported—produced by far the greater amount of material, which also proved to be the more interesring. This cave was located less than a mile north of Los Hornos. Although there was obviously historic material mixed with the other finds, the author appears to be thoroughly convinced that the sacred material is pre-Spanish. Several hundred cane cigarettes, of two types, came from this cave. These consisted of reeds, some with cord wrapping and others with woven-sash wrappings. The chapter devoted to this work includes an excellent summary discussion of the entire problem of cane —or reed—cigarettes from the desert area. Among the finds were many "pahos," sticks ornamented with painted designs, similar to "pahos" in use by the pueblo people of the north in historic times. Probably the most significant single find was five carved and painted effigy "pahos," one of which definitely suggests a Kachina doll. This is so Pueblo-like that it must be considered Pueblo-derived, or at least related to Pueblo.

The second cave, in the Superstition Mountains about thirty miles east of Los Muertos, yielded relatively little. Worthy of note is a mesquite club and a bundle of basket splints.

The conclusions, which occupy nine pages, are of a general nature and are not limited directly to the finds described. They consist of a discussion of the relation of the Hohokam and Salado cultures and the problems raised by these relationships. Two very ably prepared comparative charts are included in this chapter: one, on page 205, lists the gains and losses of the Classic as compared to the Sedentary stage of culture; the second, on page 207, is a comparison of the Hohokam and Salado cultures. Two maps, on page 206, show the movements and overlapping of these two cultures.

The author briefly characterizes the Salado culture and suggests it resulted from a Mogollon-Anasazi combination.

He describes the southward movement of the Salado culture at about 1300 A.D., mentions possible causes of this movement, argues for peaceful commingling over most of the area of contact, and raises problems relating to the end of this contact at about 1400 to 1450 A.D. He suggests that the Pueblo or Salado moved northeast, while the Hohokam remained in the Gila drainage area to become the Pima. The author then raises and points up several other problems which still remain unanswered, even by the work of the Hemenway expedition, the dig at Snaketown, and the other work which has been done in the Gila drainage area.

By way of evaluation it must be stated at the outset that this is a valuable and useful report. It is the sort of paper which will form a vital part of the library of anyone seriously working in this area. It also constitutes the first full report on material culture from classic Hohokam sites.

Had fuller records been kept at the time this work was done, much information that is now lost could have been saved. It must not be forgotten, however, that this was pioneer work in an unknown area and at a very early date. It was also the first act of a very ambitious program of research, which was eventually to have included "the investigation of the various sedentary cultures of at least western America, both North and South America, ancient and modern." In the light of such a statement of aims, this was actually only the most minute beginning of an expansive systematic program.

As a result of the lack of important data, this report is largely a description of the artifacts found. As has been mentioned, there are in several places excellent summaries and comparative studies, such as those on pottery designs, cigarettes, etc. Using the work done by Gila Pueblo at Snaketown as a basis, the author has been able to place most of the artifacts in their proper temporal and cultural relationship, so the work of one group strengthens and supplements that of the other. Although all of the sites have apparently been destroyed, it has been possible definitely to locate some of them—the most important, in fact—on a general map of the area.

Because of the careful work of the author, this report is a valuable supplement to the knowledge of this archaeological area, though it is not altogether an example of his best work. The organization is good, the illustrations are excellent. The summary is a clear statement of the situation as it is generally believed to be. The pointing up of problems urgently in need of additional investigation is also both timely and well handled. In view of the difficulties confronting the author, both he and the Peabody Museum are to be complimented on this report.

JOHN C. MCGREGOR
Springfield, Illinois

*Early Stockaded Settlements in the Governador, New Mexico; a Marginal Anasazi Development from Basket Maker III to Pueblo I Times.* EDWARD TWITCHELL HALL, JR. (Columbia Studies in Archeology and Ethnology, Volume II, Part 1, Pp. 1–96. Columbia University Press, 1944.)

With excellent documentation and a minimum of shortcomings, the research here reported goes far toward illuminating another areal and temporal void in Southwestern archaeology. Field work undertaken at three sites during 1938 and 1941 resulted in the clearing of eight pithouses and two small surface complexes and the excavation of miscellaneous exploratory trenches, as well as in the investigation of parts of five spaced-pole stockades. The location studied is in the western part of north-central New Mexico. The period represented is dated as 700–900 A.D. At this time the Governador was peripheral to Anasazi developments but was possessed of an essentially Anasazi complexion. The principal traits are the stockades, as well as local variations of pithouse construction. The latter include large size, peculiar bin arrangements, and an irregularity or variability of floor plan. Following Mera's terminology, the manifestation reflected by Hall's field work is called the Rosa phase. As known at present, its center is the Governador Wash, in the upper reaches of the San Juan River; even so, relations with Blanco and Largo canyons, and ultimately with the Gallina drainage, are presumed.

In reporting his field work and artifacts, Hall achieves a new high in concise presentation by means of the thoughtful interweaving of illustration with telegraphic-phrased description. The result is a model of summary, at least in circumstances where excavation has not been extensive.

Brief inclusions, either within the text or as appendices, report the specialized studies of the textiles (from impressions) by Kate Peck Kent, of the human cranial material by Norman Gabel, of the mammal bones by Barbara Lawrence, and of the vegetal material by Volney Jones. There are additional identifications by Alexander Wetmore and M. N. Short. That all these supplementary sections are authoritative is obvious from the names alone.

In addition to the definition of the Rosa Phase, the text includes detailed comparisons with a subsequent materialization which, following a temporal gap, is considered to represent a continuation of the Rosa line of development. The Largo-Gallina phase, dated "between A.D. 1106 and A.D. 1254," is known from previously reported excavations to the southeast of the central Rosa area. Largo-Gallina again is basically Anasazi, although marginal. It involves thick-walled surface units with peculiar bin arrangements, pointed-bottom pottery, elbow pipes with supporting knobs, combed shaft-polishers, and an emphasis on antler tools. This phase has received the attention of several workers in the past few years. In view of the parallel or identical implications of two terms almost simultaneously published (Mera's *Largo* and Hibben's *Gallina*), the use of the hyphenated combination to denote a single cultural entity is wise indeed, furnishing as it does an excellent precedent in the event that there should arise an instance where priority of nomenclature was important. The pointed-bottom pottery is of primary interest in this phase. Its appearance is dated at about A.D. 1000 and Hall adheres to earlier views that its source, in relation to its Southwestern occurrence, was somewhere in the Plains.

In citing previous work in the district and in gathering material for a general sequence of events, mention is made of the earlier work of Kidder, Morris, and Roberts, as well as of Mera and Hibben. To these might well have been added the names of Stanley Stubbs, on the basis of a 1930 reconnaissance; Herbert Dick, who excavated a pithouse in 1940; and E. H. Blumenthal, Jr., and Charles Lange who excavated Largo-Gallina sites in 1940 and 1941.

The Rosa phase is oriented within its appropriate context by means of the following general sequence for the region:

| | | |
|---|---|---|
| Rosa phase | 700– 900 A.D. | *Pithouses and stockades* |
| Largo-Gallina phase | 1106–1254 A.D. | *Thick-walled surface units and pointed bottom pottery.* |
| Governador phase (or "Refugee Pueblo"?) | | |
| Cabezon phase (eighteenth century) | | |
| Recent Navaho | | |

The extent of cultural relationship between the several entries is not clear; presumably there are cultural as well as

temporal and geographical breaks before and after the Governador phase. Rosa and Largo-Gallina, on the other hand, may represent a cultural continuity. It should be emphasized that the "stockaded settlements in the Governador [*drainage*]" relate to the Rosa phase. The *Governador phase*, however, is presumably to be equated with Kidder's "Refugee Pueblo" of a much later date and greater geographical spread. Again, *Governador*, as used in the text, at times appears to designate the whole general archaeological area from the Gallina drainage to the upper San Juan, and from Cabezon and Chaco Canyon on the south to the Colorado boundary on the north. The two later entries in the sequence probably are culturally distinct from the foregoing phases and are overlapping in time. Their best-known area of occurrence is not included within the boundaries of the Governador area, as set forth in Figure 37, the reference map. In other words, the continued use of the term "Governador" seems ambiguous; further, the previously published "Gobernador" apparently is identical in meaning. Such a circumstance of course arises from long use of the term and is hardly to be considered a fault of the contribution under discussion.

The pages devoted to conclusions list the traits which differentiate Rosa and Largo-Gallina and then briefly evaluate points of comparison between the Rosa phase and Roberts' Piedra, Morris' La Plata, and the more distant Ackmen-Lowry and Alkali Ridge developments. All these comparisons are ably achieved with the possible exception of the first. In this instance an otherwise excellent organization is weakened when Hall somewhat noisily blasts his way through a wide-open hole in our Piedra knowledge. In differing with a passing estimate which Roberts made some years ago concerning the identity of a group of unexcavated Piedra depressions, Hall appears to have forgotten that not long ago it was the custom to see reservoirs or borrow pits (always meticulously qualified) where unexcavated pithouses now may linger. Further, it was and is fashionable to derive unexplained traits from any nearby culture center (as Chaco Canyon, in the Piedra instance) which is known at the time to have possessed them. In like manner, pointed-bottom jars are being derived "from the Plains" in more recent literature. It is probable that Roberts would be among the first to desire additional Piedra field work.

Cognizance is taken of Piedra and Rosa likenesses in the curious statement that "material from the Piedra (Roberts) is too similar in many respects to Rosa to serve as comparative" (p. 85). One is therefore tempted to contemplate the possibility that the full-blown jacal of Piedra may represent precisely the sort of thing the Rosa surface complexes (called "granaries") might have been, had their survival not been interrupted by the gap of a century and a half at this point in the Governador sequence. What is the basis, actually, for the statement that "the Rosa [surface] house was too small to be used as a dwelling" (p. 62), especially as it is earlier represented as a granary or "work area" (p. 27)?

The balance of the synthesis considers the similarities of Rosa to other nearby areas. To sites farther south a lessening degree of relationship is correctly ascribed. One might wish that the careful objectivity demonstrated in the comparison of Rosa and La Plata traits had been extended to the examination, rather than tacit acceptance, of Mera's statement that Largo-Gallina wares may be "ancestral" to Rio Grande wares. Indeed, here is a proposition much more eligible for careful attention.

A cautious editing of the Governador monograph would have been desirable. For instance, Charts II and III (p. 61) convey the impression that the duration of Rosa was prior to 600, whereas the text suggests 700–900 A.D. Appendix F shows only five dated beams (three of them "plus X") which fall before 750. In view of the later dates from the same building units, one sees little evidence for the view that Rosa preceded A.D. 750. The delinquencies of Chart III, however, are doubtless mechanical or typographical. Also, in slightly more than thirty full text pages one encounters "the author" or "the writer" almost to the point of over-familiarity (37 times). AMERICAN ANTIQUITY is repeatedly written AMERICAN ANTIQUITIES and *Carnegie Institution* as *Carnegie Institute*. Page 34 tells us that Rosa Brown "feels soft," and it appears that Transition B\W may be identical with Transitional Decorated.

But these minor accidents prove nothing; the essential fact remains that, in drawing together the general picture of the archaeology of his area, Hall's contribution is systematic, valuable, and in general very capably done. And his use of illustration, in place of extended description, is excellent.

PAUL REITER
University of New Mexico

*Archaeology of Northwestern Venezuela*. ALFRED KIDDER II. (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. XXVI, No. 1. Cambridge, Massachusetts, 1944.)

This report embodies the results of two seasons of survey and excavation in 1933 and 1934, studies of private and museum collections, and summaries of previous research in the field of Venezuelan archaeology. The result is a well-integrated account of the archaeology of this area and its relationships in space and time, based on materials available prior to 1941.

For his field investigations, Kidder selected the region extending from Caracas west to the Colombian border. Surveys were undertaken in the valley of Caracas; in the region surrounding Lake Valencia; and in the western states of Lara, Trujillo, and Mérida, while important excavations were made at the key sites of Los Tamarindos, on the shores of Lake Valencia, and Mirinday and Los Chaos, in the Carache Valley in the state of Trujillo. In consequence of the findings at Los Tamarindos, our knowledge of the cultures and history of the Lake Valencia Basin has been greatly expanded. The site is a deep deposit of dwelling refuse containing burials and represents two chronologically distinct cultural phases, both of which are distinguished by characteristic pottery wares, burial styles, and stone artifacts. The earlier is designated "La Cabrera," the later, "Valencia." With the exception of a few specimens from other sites, this is the only known manifestation of the La Cabrera Phase in the Lake Valencia region, and Kidder is to be commended for undertaking a difficult job of excavation in order to isolate this material. The Valencia Phase is typical of the sites of the region, and the material corresponds for the most part to that described by Bennett from La Mata site and by Osgood from Tocorón site. The Carache Valley sites excavated by Kidder represent a single phase and period of occupation distinguished primarily by the pottery, which shows relationships closest to that from sites in the state of Falcón and in the Dutch Islands. The section dealing with the survey of the states of Trujillo and Mérida contributes a detailed study of the literature and of the important collections pertaining to this region. Of particular value is the classification and description of figurine types. The Lara and Caracas surveys yielded little in the way of new data and conclusions.

The final section is devoted to a discussion of the spatial relationships of the Venezuelan cultural units. The distributional evidence is presented in full detail, and the relationships both within and beyond the borders of the country are discussed. A fundamental cleavage is noted between the phases of the western area, comprising the Andes, the Maracaibo Basin, the Dutch Islands, Falcón, and Lara, and those of the central and eastern region, represented primarily by the Valencia Phase. The La Cabrera Phase shows traits characteristic of both of these areas. As regards the relationships outside Venezuela, the evidence suggests origins from a number of sources, primarily the east and south on the one hand, and the west on the other.

In addition to the foregoing topics, there are sections dealing with the geography, history, and ethnography. Mention should be made of the wealth of detail to be found in the descriptions of artifacts—particularly those of the ceramics, which include technological data. It would seem desirable to have presented an arithmetical tabulation of the artifacts from Los Tamarindos site in terms of their stratigraphic distribution. The report is well illustrated and contains a good bibliography.

GEORGE D. HOWARD
Yale University

*The Iroquois in American Prehistory.* JAMES B. GRIFFIN. (Papers of the Michigan Academy of Science, Arts and Letters, No. 29, Part 4: General Section, pp. 357–373. Ann Arbor: University of Michigan Press, 1944. $2.00.)

The author, never loath to tackle a difficult subject with diligence and enthusiasm, surveys the problems relating to Iroquois prehistory and origin and contributes a new hypothesis. To be entirely fair to Griffin, the hypothesis lacks the confidence one has come to expect in his conclusions and is very tentatively proposed, assuming almost the form of a question: could it be that the Hopewellian culture is ancestral to the Iroquois culture?

In acknowledgment of the complexity of the problem, the introductory statement is made that "All factors must be considered." The various fields of study potentially productive of data important in establishing the most logical theory on the prehistory of such a people and culture are enumerated as: mythology, folklore, and historical traditions; ethnology; linguistics; physical anthropology; documentary history; and archaeology. Much of the research in these fields essential to even the most fundamental outlines of knowledge admittedly has not been done.

As a matter of fact, although certain generalities bordering on established facts determined in other fields are briefly discussed in this paper, the embryo hypothesis so cautiously submitted is actually based upon archaeological data. Furthermore, as regards any specific presentation of supporting facts, the conclusions are based almost exclusively upon pottery data. Thus the value of the hypothetical suggestion is strictly limited by the limitations in the variety of data employed. Moreover, the conclusions are based upon selected traits shown to be similar by a comparison of Iroquois and Hopewellian pottery, rather than on a comparison of a total of known Iroquoian pottery traits with a similar total of Hopewellian traits.

The reviewer acknowledges that any presentation of facts pertinent to the problem, with a discussion of interpretation, is of value; but the failure of the author either to consider all known anthropological data bearing on the problem, or at least to weigh critically all of the archaeological evidence—or even all of the pottery evidence—as a preliminary essential to the serious reception of his hypothesis, is disappointing. The picture of important contrast offered by any complete comparison of Hopewellian and Iroquoian pottery, to say nothing of a complete comparison of Iroquoian and Hopewellian culture, is such as to overbalance completely the few elements of pottery similarity and the limited support of selected generalities and conjectures on prehistory supplied by the author.

Griffin is his own severest critic when, in his arguments against the importance of diagnostic or exclusive trait lists peculiar to the Iroquois (p. 366), he states: "In my own opinion such traits, though interesting and valuable, are in some ways rather a side issue in archaeological research, while our proper aim is the recovery of the total complex of the group to be studied, and this total complex must be compared with other artifact assemblages equally complete in order to determine the true connection between groups." Griffin has not made use of existing totals of artifact assemblages, and other pertinent data, in the presentation of his argument. He has featured certain carefully selected traits, primarily relating to pottery, which appear to bear out a preconceived idea as to the ultimate conclusion.

True, a considerable amount of space is deevoted tophysical types, which are admittedly pertinent to the subject if not overemphasized. However, such data in the negative contribute little if anything to his position. If it is true that "there is also no group in the Southeast which compares closely with the eastern Sylvid sub-type to which the Iroquois belongs" (p 363), it is equally true that the Iroquois adopted and intermarried freely with prisoners of war, which is apt materially to interfere with the permanence of any true physical type.

The hazy connection between culture and physical ancestry is well illustrated by the Dakota Sioux, who at one geographical extreme were wholly Northern Plains in cultural habits, and at the other extreme had a characteristic Woodland culture. True, "Dakota Sioux" is primarily a linguistic rather than a physical-type term, but so is "Iroquois." There is little question that the Dakota came into their area of prehistoric occupation as a reasonably well-balanced physical group with a single aspect of culture. If one started out to trace the Woodland culture of the eastern Dakota on the basis of physical type, one should anticipate the same difficulty which Griffin experiences in his similar investigation of Iroquois cultural ancestry in terms of physical type.

In his last paragraph (p. 372) Griffin correctly states the need " . . . for an intensive search for sites in the eastern Great Lakes and St. Lawrence areas which give evidence of earlier and still earlier Iroquois habitations." He goes on, however, to conclude: "If such investigations continue to reveal a culture complex which is basically Woodland with additional Hopewellian characteristics, we can then reexamine with more confidence the various Hopewellian centers in an effort to determine with some exactitude whether any of them provides a possible ancestral area for the Iroquois . . . " (pp. 373–374). I question the initial assumption. Having engaged in some research relating to both Woodland and Hopewellian manifestations, and having examined with considerable care both archaeological materials and reports of manifestations ascribed to the Iroquois, I have yet to see any Iroquois or any Hopewellian complex which as a complex is basically Woodland.

If we are going to use archaeological classifications, we should employ them realistically on the basis of recurring complexes of traits rather than on the basis of assemblages of selected traits inspired by historic theory.

W. C. MCKERN
Milwaukee Public Museum

# NOTES AND NEWS

## A HISTORY OF ANTHROPOLOGY IN THE WAR

The Committee on War Service of Anthropologists of the Division of Anthropology and Psychology, National Research Council, has recommended the preparation of a history of anthropology in the war. At its meeting on February 17, 1945, the Committee concluded that such a history should be broader in scope than a mere record of anthropological activities or the functions of anthropologists in the war and should include consideration of the impact of the war on anthropology.

The purposes of the proposed history will be several, It will endeavor to provide a record of the use of anthropology and the activities of anthropologists in the war and early postwar period. War and postwar activities will be interpreted in a fairly broad sense to include not only the work of the recognized war agencies but contributions to national and international programs designed to facilitate the war and reconstruction, including various types of educational activities. A further objective will be an appraisal of activities to show the success or failure of anthropology in the various activities and possible improvements in organization or overlooked opportunities. Such an appraisal will be of value in promoting better use of anthropology and anthropologists in the event of future national emergencies. Finally, the history will endeavor to show the impact of the war upon teaching and research and upon personnel. Changes in teaching methods or objectives, the stimulation or stoppage of research programs, and the effects on the personnel of anthropology are all regarded as legitimate subjects. Information on possible demands for anthropologists in the future is desirable.

The Committee wishes to include consideration of activities which may be regarded as marginal to anthropology but in which anthropologists or anthropological data or methods have played a part. In this connection the Committee wishes to express the caution that it considers mere glorification of anthropology and any overemphasis on anthropology's part in winning the war to be undesirable. Particularly in consideration of marginal activities, the role of anthropologists and anthropology should be considered realistically and conservatively. At the same time any colorful episodes in the war experience of anthropologists should not be omitted.

The writing of the proposed history and, in many cases, the collection of materials must await the end of the war. It is important, however, that anthropologists prepare notes on past activities now restricted and ideas for the future as soon as possible. The Committee hopes to secure a list of consultants and contributors who will take the major responsibility for reporting on the various agencies and institutions in which anthropologists are most active, but many activities and experiences will be lost unless individual anthropologists cooperate in the preservation of information.

At some future time the Committee will submit an outline of the proposed history, but at present it wishes to call the plan to the attention of anthropologists and to urge them to begin the accumulation of data on their own activities, on the operations of various agencies, and the activities of other members of the profession. Much of this information probably will not be available for use until after the war, but it is important that the problem receive thought and attention at present and that the data be gathered currently. Statements from individuals regarding their war activities and the impact of the war on their anthropological work may be sent to the Chairman of the Committee.

Related to the historical program is the preservation of reports, research results, etc., accumulated by various war and other agencies which may be lost or abandoned after the agency has been abolished. Anthropologists are urged to make every effort to locate such materials as may be of scientific value, either in present form or after reworking, and to try to arrange for their preservation. The Committee will be glad to assist or consult with colleagues regarding this problem.

The Committee invites the comment and cooperation of all members of the profession.

| | |
|---|---|
| Ralph Beals, *Chairman* | Julian Steward |
| John H. Provinse | Wm. Duncan Strong |
| F. M. Setzler | Joseph E. Weckler |

## TWO NEW PUBLICATIONS

Lack of space in the April and July numbers prevented announcement at that time of *The Southwestern Journal of Anthropology*, a new journal sponsored jointly by the University of New Mexico and the Laboratory of Anthropology. This periodical will cover all branches of anthropology, and is open to contributions from any anthropologist and on any topic, field, or time horizon. Contributions should be addressed to the editor, Leslie Spier, University of New Mexico.

*The Southwestern Journal of Anthropology* will appear in an annual volume of 400–600 pages, in quarterly issues. The first number appeared in July. Subscriptions ($4.00 a year) should be addressed to the University of New Mexico Press, Albuquerque, New Mexico.

The first number of *Acta Anthropologica*, designed to furnish an outlet for papers by young anthropologists trained in Mexico, was scheduled for release on June 1. It will contain papers by teachers as well as students of the Escuela Nacional de Antropología de México. Subscriptions ($2.00 for first volume) should be addressed to the Editor of *Acta Anthropologica*, Monéda 13, México, D.F.

## ARCTIC AREA

### A New Scandinavian Arctic Society

Despite war and German occupation and with an unshaken belief in final victory for the United Nations, Scandinavian scientists have laid the foundation for a new Arctic society. Societas Arctica Scandinavica was founded by a circle of Scandinavian scientists, but as it was impossible at that time to get in contact with many research workers in the other Scandinavian countries, the Danish section represents the Society alone until normal conditions are reestablished. So far the activities of the Society have been limited to the publication of *Acta Arctica*, which will appear at indefinite periods and will be written in English, French or German.

The need for a publication like *Acta Arctica* has long been felt. *Meddelelser om Gronland* only accepts articles on subjects concerning Greenland; while articles dealing with other arctic regions were published in widely scattered periodicals of various branches of science. *Acta Arctica*, on the other hand, accepts "scientific papers of general arctic

interest in the fields of humanistic as well as natural sciences," and will undoubtedly be welcomed by all scientists who are working with arctic subjects.

*Acta Arctica* is a worthy product of Danish book industry. It appears in the same format as *Acta Archaeologica* and is of the same high standard as regards the quality of paper and printing. The first number, which came out in 1943, contained an analytical study of "The Eskimo Legend of Navaranaq" by Erik Holtved. (*Helge Larsen*)

On Sept. 8, 1944 at a meeting in Montreal, the Arctic Institute of North America was organized for the purpose of initiating, encouraging, and supporting scientific studies of the Arctic and sub-Arctic regions of North America. The research program of the Institute will include: (1) pure research in fields of study that are basic to the problems of the development of the Arctic, i.e., studies in geology, cartography, oceanography, meteorology, biology, anthropology, and (2) applied research, studies designed to furnish basic scientific data on the resources and developmental possibilities of the Arctic.

The Arctic Institute is administered by a Board of Governors, the present members of which are: Dr. Charles Camsell, Deputy Minister of Mines and Resources of Canada and Commissioner of the Northwest Territories (*Chairman*); Mr. Philip Chester, General Manager Hudson's Bay Company; Dr. Henry B. Collins, Jr., Director Ethnogeographic Board, Smithsonian Institution; Dr. Richard F. Flint, Associate Professor of Geology, Yale University; Dr. L. M. Gould, President, Carleton College; Mr. Ray Gushue, Newfoundland; Dr. E. M. Hopkins, President, Dartmouth College; Dr. Hugh L. Keenleyside, Assistant Under Secretary of State for External Affairs and Canadian Minister to Mexico; Dr. C. J. Mackenzie, President, National Research Council of Canada; Dr. Robert Newton, President, University of Alberta; Dr. J. J. O'Neill, Professor of Geology, McGill University; Mr. G. R. Parkin, Sun Life Assurance Co., Ltd., Montreal; Dr. Morten P. Porsild, Director Disko Biological Station, Greenland; Mr. Walter S. Rogers, Director, Institute of Current World Affairs; Dr. Philip S. Smith, Chief, Alaska Division, U. S. Geological Survey; Dr. Vilhjalmur Stefansson, 67 Morton St., New York.

In 1944 Frederick Johnson of the R. S. Peabody Foundation, Andover, made an archaeological reconnaissance of the region traversed by the Alaska Highway. The work was done in collaboration with Dr. and Mrs. H. M. Raup, botanists of Harvard University, and Mr. John Sticht, geologist, also of Harvard.

Test excavations and surface collections were made in the region between Whitehorse, Yukon Territory and Big Delta, Alaska. Particular attention was paid to the region about Pine Creek and Kluane Lake, Yukon Territory. The artifacts discovered were associated with a deposit of wind-blown soil which is now covered by several feet of recent deposits. The age of the stratum of wind blown soil has not yet been determined but there are indications that it may be one or more thousand years old. The artifacts comprise thumb-nail scrapers notable because of graver points which have been formed on one corner; stemmed arrow points; chipped adzes; small prismatic flake-knives; and knives made from very thin flakes. These latter are important because of the special retouch. Work south of Whitehorse was confined to surface collecting on a number of sites. The material collected was similar to that described above. The collections are the first which have come out of the region and lack of comparative data prevents the understanding of their full significance. It seems probable, however, that the material is evidence of fairly early occupation of the region. Preliminary study suggests that some of the details observable in this collection are distributed from the arctic to as far south as Texas. In every case moderate antiquity is postulated. (*H. B. C.*)

## NORTHEASTERN AREA

According to reports received, the most noteworthy archaeological investigations in the Northeastern area during the past year were conducted in the state of Massachusetts. Wartime exigencies, for the most part, resulted in the curtailment of many of the usual activities of museums, universities, and state archaeological societies. Some of these functions will presumably be resumed during the current year. Despite the difficulties of conducting research, maintaining a regular schedule of meetings, and in some cases in publishing, it is encouraging to note that the membership of most groups has not appreciably diminished, while in some it has shown a steady rise.

The Robert S. Peabody Foundation for Archaeology, of Phillips Academy, Andover renewed research on a very interesting old island site in the Taunton River, which promises to contribute to our knowledge of the chronology of the area. Mr. Frederick Johnson writes as follows:

"During the last week in May we took up the study of Grassy Island which was interrupted in 1942. The work to date has substantiated Delabarre's opinions published in 1925. [*American Anthropologist*, 27: 359 ff.; 30, 476 ff.] Furthermore we have some additional ideas. Unquestionably Grassy Island is an old village site which has been inundated by a rise in sea level. The site is now covered with a layer of marine peat which varies in thickness from two to five feet. The study is being carried forward by Hugh M. Raup of the Arnold Arboretum, Jamaica Plain, Mass. and Frederick Johnson, R. S. Peabody Foundation, Andover. We hope to enlist the aid of a pollen analyst. In order that the development of the Grassy Island peat may be fully understood we are analyzing several other beds of peat in the Taunton river valley. We hope that this will permit at least an estimate of the age of the site. The cultural data consists of about 1000 stone artifacts. Classification and comparisons of these are under way. A manuscript is more than two thirds complete and publication at an early date is contemplated."

Mr. Johnson further states that "Mr. Ripley P. Bullen, associated with the Peabody Foundation, Andover, is carrying on a survey of the Shawsheen River Valley. A number of small sites have been extensively tested. From these a tentative stratigraphy has been worked out. The situation appears to be of considerable significance for it involves not only a change in artifact type, from top to bottom, but events of possible geologic significance."

The several chapters of the Massachusetts Archaeological Society, headed by Mr. Leaman F. Hallett, have been doing a significant work in augmenting our data for the general area. The Warren King Moorhead Chapter plans to complete its excavations of last season on the Ford site at Winnecunnet Lake, a contact period station, which may contribute to a fuller understanding of the early phases of acculturation of the Coastal tribes.

Mr. Maurice Robbins, who is participating in the field project, announces, as Curator of the Attleboro Museum,

that his group has "just completed the classification of some 30,000 projectile points [housed in the museum], according to the system adopted by the Massachusetts Society, and are planning to continue our study of the other objects this summer and fall."

"The Connecticut Valley Chapter of the Massachusetts Archaeological Society," says Mr. William S. Fowler, "has now completed the excavation of the aboriginal steatite quarry at Westfield, under my direction. One of the most interesting and perhaps far reaching discoveries at the site was that of a quartz tool quarry and workshop, which lay adjacent to the steatite deposit. I have written and illustrated a report on the specialized tool making that was apparently carried on there, and this paper appears in this number of AMERICAN ANTIQUITY.

"We are at present in the midst of an excavation of the North Wilbraham steatite quarry where we have found the manufacture of eating utensils much in evidence. Besides the usual kinds of bowls, we have recovered specimens indicating those illustrative of the making of spoons, plates and drinking cups. The latter was a popular number, and I have been fortunate in finding four specimens representing as many stages in the manufacture of the cup—designed to hold about half a tumbler, and presumably used for eating liquid foods."

The Connecticut Valley Chapter has begun a study of the design elements found on New England pottery. Details of the plan were published in the *Bulletin of the Massachusetts Archaeological Society*, Vol. VI, No. 4, July, 1945.

Dr. Irving Rouse writes as follows concerning archaeological activity in Connecticut.

Because of the war, the Yale Peabody Museum has undertaken no field work in Connecticut archaeology during the past year. A report of the pre-war excavations of the museum at the Basto site in South Woodstock, however, has been published in the *Bulletin* of the Archaeological Society of Connecticut by Mr. Alexis A. Praus, who is now in the army.

Several private individuals have continued to work in the field. Mr. C. C. Coffin recently discovered and is digging a shell heap near Milford which promises to yield an unusually large amount of coastal Algonkian material. Excavation at Juniper Point in Branford, a contact site which is particularly rich in pottery, is being undertaken by Mr. Gordon H. Rowe.

During the past year, the Archaeological Society of Connecticut has organized a project for studying the mineralogy of Connecticut artifacts. It is planned to make a collection of the materials used particularly in chipping stone artifacts and eventually to compile data on their distribution and on their correlation with the artifact types.

The Archaeological Society of Connecticut has also during the past year changed the format of its *Bulletin*. Following the example of the Massachusetts Archaeological Society, the local society has shifted from the mimeographing to the lithoprinting process, a change which has been made possible by the rapid growth of the membership of the society during recent years. (*W. A. R.*)

In Michigan an interesting excavation is being carried out by the Detroit Aboriginal Research Club on a mound in Fort Wayne, an army post in Detroit, on the north shore of the Detroit River. The mound was dug by Henry Gillman about 1870, in two trenches intersecting at the center, Gillman did not go deeply enough, and the present excavations have brought forth a considerable amount of material from underneath the former trenches and outside of them laterally. Among the artifacts recovered are several Woodland pots, large "barrel-shaped" shell beads, "sinew stones," well finished celts with rectanguloid cross-sections and, with a burial, a slate birdstone of the conventional type. Most of the burials are in a fragmentary condition and no indication of post mortem perforation of bones, so common in southeastern Michigan, has yet been noted.

A site near Grand Rapids yielding Folsom-like points has come to the attention of the Museum. It is on a sandy ridge from which a considerable amount of material has been excavated by the wind and also by the steam shovel for grading purposes. An examination of the site by Dr. Griffin revealed no sign of domestic activities as long ago as the presence of Folsom-like points would suggest, although what has been destroyed by natural and commercial agencies cannot be said. The three points, the upper half of one of which is missing, are made of a kind of flint common in Michigan. A considerable variety of other than Folsom types has been found on the site by its discoverer, Mr. James Dobbelaar of Grand Rapids. Among them are notched and stemmed points, and scrapers and ovate knives. Mr. Robert H. Merrill of Grand Rapids has furnished photographs and a map of the site.

Archaeological field work of the Museum of Anthropology, University of Michigan, for the past seven years has been centered in the Manitoulin District on Ontario. Since 1941 this work has been confined to the Killarney area, where excavation is being done on four sites which are geologically dateable by their connection with the abandoned beaches on which they lie. Work has been somewhat curtailed during the War and emphasis has been on contour mapping and the search for new sites in order that when students return they will be able to concentrate on actual excavation. An interesting outgrowth of this work will be the collection of information and photographs about the details of the Mackinac-French River route to Montreal, used by the Indians and the French in the Seventeenth Century. The most intricate part of the route was in the Killarney area, and some of the channels then used are now dry, owing to the subsidence of the Lakes as a result of the tilting of the land. All the data collected to date on this matter indicates that this old trade-route lay to the north of Manitoulin Island rather than to the south, along the north shore of the North Channel. (*E. F. G.*)

## SOUTHEASTERN AREA

### JESSUP'S BLUFF: A NEW EARLY STAMPED POTTERY SITE AT OCMULGEE NATIONAL MONUMENT

Students of southeastern archaeology will be interested in some observations and notes made recently on the occurrence of small camp sites located on small eroded hillslopes or spurs fringing the area of Ocmulgee National Monument. Gordon R. Willey surveyed several of these during the CCC period at Ocmulgee and several detached small sites have been recorded at intervals by Junior Park Archaeologist Charles H. Fairbanks.

Soil erosion along an old truck trail has uncovered surface indications of a camp site located within the southern boundaries of the Monument, on a small bluff overlooking Walnut Creek. A small group of soldiers from the Reconditioning Hospital at Camp Wheeler assisted several days on

the surface and test pit survey of this site. A few preliminary observations of the material collected will be of interest to those who have been working with early stamped pottery collections from Georgia and Florida.

The pottery from the site shows an association of the following recognized types, familiar to students of central Georgia ceramics:

1) Swift Creek Plain and Complicated Stamp
2) Napier Complicated Stamp
3) Fiber-tempered ware

In addition several pieces of ware hewn from soapstone or steatite were collected from the site.

The fiber-tempered specimens are of special interest, inasmuch as the occurrence of this kind of pottery was first observed at the original Swift Creek site, and was later found at the base of the stratigraphic pottery sequence at Savannah, Georgia, incident to the survey of that section by Antonio J. Waring and others. The sherds are thick, cruddy, friable, poorly fired. The surface shows a vermiculated finish as if the extruded fiber material, used in tempering, had been pressed against the body of the vessel in crude smoothing operations just before firing. In cross section the paste shows small, pin-point holes where the fiber had been oxidized or burned away.

Also, a few sherds of a small check stamped ware have been found in association with the above mentioned complex of pottery types. This check stamp has not yet been definitely identified with any type reported for central Georgia or the Savannah area, a somewhat larger sampling will probably be required for study.

The original, type, Swift Creek site, is located only a mile or so away to the southwest of Jessup's Bluff. I regret to inform that this site, once part of the Bibb County Farm, has been incorporated within Camp Wheeler and has become a casualty of World War II. The main Swift Creek mound has been almost completely destroyed by the Army in 1943 in providing borrow dirt for a dump area on the original village site surrounding the mound. Most of the village area is now the site of a large ammunition dump. Some portions are still preserved outside the area under Army jurisdiction in an adjacent cultivated field, and it may be that still other portions of the village extended into what is now low swamp fringing the Swift Creek Site.

The Swift Creek sherds from Jessup's Bluff on the basis of style of design and rim shape appear to belong to Early Swift Creek. Reference is made here to the stylistic changes observed in Swift Creek complicated sherds taken from different occupation levels in the original Swift Creek mound. The folded rim, for instance, is in process of development, showing the simple, undifferentiated shapes peculiar to the lower levels of the Swift Creek mound site.

The occurrence of the small, linear, herring-bone design of Napier Complicated Stamp along with Early Swift Creek materials is interesting. This elusive early stamped ware shows up in varying percentages in central Georgia site surveys at places where Swift Creek is found. "Pure" sites of Napier Complicated Stamp are rare, however, and surveys in Georgia thus far have not sufficed to indicate the probable center of development for this type.

The Jessup Bluff site is yielding relatively few stone artifacts; the general poverty of objects in this classification is usual in the earliest stamped pottery sites. There is observed to be, however, a larger percentage of quartz and quartzite implements, with cruder techniques of chipping, than that observed for the later sequences, or for Swift Creek proper. (*A. R. Kelly*)

## NORTHERN MISSISSIPPI VALLEY

The University of Chicago sent a small field party to the Kincaid area during the summer of 1944. One of the most significant results was Mr. McNeish's excavation of the Faulkner site. This site appears to be transitional between the Indian Knoll Focus and the Black Sand Focus.

During the spring of 1945 commercial activities in the neighborhood of the mounds at Havana, Illinois has resulted in the recovery by Mr. McNeish of some additional material and some information regarding the structure of the mounds. A stratified Hopewell village site on the west side of the Illinois River in Fulton County was also excavated.

From Charles R. Keyes comes the following:

In late May a group of six students dug for five weeks in connection with the Cornell Summer School in Spring Hollow at the Palisade State Park where there are three promising rock shelters that had never been disturbed except for the merest test.

The largest shelter and the most promising, superficially, proved small, as if occupied only occasionally or for a very brief period. We finished it in five days. The second has proved quite large and it will hustle us to finish it. The two promise to clear up some problems connected with the Maquoketa Aspect (probably such) of the Woodland.

The State Archaeological Society of Missouri was established in December 1934. Its purposes are: 1. The preservation of Missouri's antiquities. 2. Scientific study of these remains. 3. Publication of information about Missouri Indians. 4. Development of public appreciation for Missouri's ancient remains. 5. To provide professional and amateur archaeologists an opportunity to discuss their common interests and to cooperate in deciphering the prehistoric past. The Society invites anyone to membership who is sympathetic with these aims.

The Missouri Archaeologist is the bulletin of the Society and nineteen issues have been published. The material consists principally of articles written by members concerning surveys or surface work on specific sites. Excavation, through several seasons, has been conducted in various parts of the state under the supervision of the Society and the University of Missouri and reports on this work have been published.

Through the efforts of the organization "The Old Fort in Saline County" (Gerard Fowke, BAE. Bulletin 37, p. 82, 1910) has been purchased by appropriation of the state legislature and added to Van Meter State Park. Two meetings per year are held by the Society for the discussion of problems, reports of activity by members and others, and the conduct of business. The Mid-year meeting is held each spring in different parts of the state, but has been discontinued temporarily because of the war.

The two men to whom credit must be given for much of the work accomplished are Dr. J. Brewton Berry and Prof. J. E. Wrench of the University of Missouri. The former is secretary and editor, the latter president, of the organization. Dr. Berry has now resigned to accept a position as head of the department of Sociology at Rhode Island State College and his loss to the archaeology of Missouri will be keenly felt.

The Society hopes to continue its efforts with even more activity after the war but, since its work has been kept definitely linked with the program of the University of Missouri, definite plans for the future are awaiting the action of that institution in the replacement of Dr. Berry.

On May 1, 1945, work was taken up once more at the Angel Site in southwestern Indiana by the Indiana Historical Society. Two students of anthropology at Indiana University are working there, carrying on excavations in the inhabited area, doing laboratory work and the many other tasks accompanying a field project. They are enrolled in a Field Course and will receive credits for their efforts.

A third student, also from Indiana University, will begin a survey of parts of the Wabash drainage starting July 1. Certain areas are threatened with possible destruction by post-war flood control projects and it is our intent to determine the nature of sites which will be involved. Both of the above undertakings are under the direction of Glenn A. Black.

Georg Neumann, of Indiana University, is beginning a study of skeletal materials which have accumulated as a result of the past twenty years of field work in Indiana. This data is much needed at the present time.

Mr. Lilly, Mr. Weer, Dr. Voegelin, as well as Neumann and Black, have carried on during the much troubled years which followed December 7, 1941. Interest in the problems relating to Indiana prehistory has lagged at no time in spite of the fact that conditions have not been conducive to overly active endeavor.

Dr. Richard G. Morgan reports concerning activities of the Ohio State Museum:—

The major undertaking of the Department of Archaeology for the first part of the year was the planning and installation of the Fort Ancient Museum. The Anderson Village Site and the private museum formerly operated by Mr. C. C. Anderson have been incorporated into the Fort Ancient State Memorial and are now administered by the Ohio State Archaeological and Historical Society. This park now features two outstanding prehistoric sites, the Fort Ancient Earthworks built by the Hopwellian peoples and the Anderson Village site which was occupied by a group of Indians of the Fort Ancient Aspect. The completely remodeled museum is devoted primarily to the interpretation of the life of the people of the Anderson Component.

The life of the people is shown by a series of seven large panels, each pertaining to a particular phase of their activity. These are entitled: The Village, Agriculture, Hunting and Fishing, Household Life, Personal and Social Life, Manufacturing Processes, and Burial Customs. An eighth panel contains a cultural and time chart of the various prehistoric groups present in Ohio. Other exhibits deal with pottery, the utilization of animal life and reconstructions of different types of graves found in the site. Each panel, illuminated by indirect fluorescent lights, has a painted background depicting some aspect of the life of the village.

The assemblage of material from the Anderson Component is one of the best in existence relating to the Fort Ancient Aspect. There is an exceptionally good series of human skeletons which is now being processed in the laboratory. The collection of animal skeletal material is extremely large and representative, including bones of the extinct Carolina Parakeet. There are over eighteen hundred worked and unworked mussel shells which should be of value to a conchologist for ecological studies. In addition, there are approximately ten thousand potsherds and a large and complete collection of artifacts.

Dr. Loren C. Eiseley, associate professor of sociology and anthropology at the University of Kansas for several years, has been Professor and Head of the Department of Sociology at Oberlin College (Oberlin, Ohio) since November 1944. He will offer new courses in anthropology during the coming year, and continue his researches on the subject of Early Man. (*J. B. G.*)

## THE PACIFIC COAST

The Santa Barbara Museum of Natural History has been fortunate to be able to carry out some field work after more than a year of enforced idleness.

Through the cooperation of the United States Navy and the Coast Guard, a thorough aerial survey of the Channel Islands off the coast of southern California has been made. All of the islands, except Santa Catalina, have been flown over, the known Indian sites spotted and their features noted, and new sites plotted on the map. Trails, camp sites, and beaches upon which to land have been noted to facilitate future field work. It is planned to extend the survey to Santa Catalina at an early date, and to make landings on the near by Channel Islands for ground reconnaissance and excavation.

Three trips were made to San Nicolas Island, the most remote and least known of the islands. This island was thoroughly explored by plane, jeep, and on foot. Fifty-three Indian village sites were visited and collections made from a number of them.

Among characteristics of Nicoleño culture, which differentiate it from the culture of the Mainland and other islands, were the numerous dog remains of two, and possibly three, varieties; the great number of shell fishhooks (154 found in one day) of unique style; the large number of bone ornaments or tools which are unique to the island; the lack of shell ornaments; and, considering that Santa Catalina is visible from San Nicolas, the scarcity of steatite objects.

Evidence which indicates that San Nicolas has been inhabited for a longer period than we have been admitting for the island cultures, was found in numerous instances, although progressive improvement in culture from the older to newer sites was not in evidence to the extent usually found on the Mainland. (*Phil C. Orr*)

Dr. Malcolm J. Rogers writes as follows:

Navy occupation of the museum placed us in a position whereby we were even fortunate to retain offices and some sort of identity during the emergency. Until that situation is rectified and we rebuild the San Diego Museum there will be no researches undertaken which might provide copy for this section of "American Antiquity."

Arden R. King writes from the University of Washington:—

H. Thomas Cain and Arden R. King completed two preliminary surveys of pictographic and petroglyphic material in eastern Washington. This project will be carried on by Mr. Cain during the summer of 1945 with the emphasis being placed on the central and upper Columbia river valley and its tributaries. It is hoped that a thorough survey of this area will extend the knowledge of these cultural elements here and their relationships with other parts of western North America.

A preliminary reconnaissance of this area reveals the occurrence of pictographs confined to granitoid material along river courses and the chief routes of aboriginal travel. As an adjunct to this survey all archaeological sites will be plotted. The discovery of a large pithouse site on the Columbia River twelve miles north of Coulee Dam initiates a program of reconnaissance and excavation which will be

undertaken in areas not covered by Hudson, Collier, and Ford (Archaeology of the Upper Columbia Region, UW-PA 9:1, 1942). It is hoped that it will be possible to correlate sites in this region with locations of proto-historic villages.

Preliminary surveys of village and shell mound sites of the Puget Sound area are being made with a view towards eventual mapping of all sites, and the excavation of key sites, in this area. The identification of these sites with historic and proto-historic villages and place names will be sought. It is hoped that preliminary excavation will begin this summer. (*E. W. G.*)

## MIDDLE AMERICA

The following note supplied by Dr. A. V. Kidder outlines the limited field work done by the Carnegie Institution during the first half of 1945:

"Because of the absence of staff members in the armed services and other activities connected with the war, investigations formerly in progress in Yucatan and Honduras have been discontinued. In Guatemala, R. E. Smith, having learned that a road-cut near Coban in Alta Verapaz had exposed a midden, excavated further and made a large collection of potsherds. In the laboratory these proved to be of very fine incised wares of which few examples had previously been known. A number of vessels were sufficiently fully restorable to permit recording of beautiful designs incorporating human and animal figures. A. L. Smith and C. Tejeda spent the winter in the northwestern highlands making a survey of archaeological sites believed to date from the time of the Spanish conquest or shortly before. Architectural studies were made at Zaculeu, Aguacatan and in the neighborhood of Sacapulas and minor excavations were carried on to recover samples of pottery. Certain buildings, particularly at Sacapulas, were found in excellent preservation."

Quoted below is a communication just received from Dr. Matthew Stirling summarizing the results of his 1945 trip to southern Mexico for the Smithsonian Institution and the National Geographic Society:

"I was in the field this year from the middle of February to the first of June. The first part of the trip consisted of a reconnaissance in the country back of Tapachula, Chiapas, where we located a few sites with carved stones around the base of the volcano; some interesting monuments, but nothing very spectacular. From there we went to Piedra Parada, about ten miles north of the village of Ocozocuautla, at which site we conducted our principal excavations for a period of about three months. This is a virgin area archaeologically and the work will more or less constitute a type site for the region. Piedra Parada consists of a group of light principal mounds, one of which buried a complex stone-masonry structure, one pyramid over another, Mexican style, but with a number of unique architectural features, particularly in the primary structure, which was decorated with a series of pseudo windows with stoned awnings, and which contained a deep central shaft, masonry lined, and with a stairway leading down to the bottom of it. All other mounds in the group appear to have been pure earth mounds. We obtained a good collection of ceramic material from the mounds and from a couple of burial sites which we located in the flats, and I hope that some sort of stratigraphy will develop from this material, although I do not think that a particularly long time is involved.

"We also explored a number of caves in the region, the ceramics in which tie in for the most part with our mound material. Rather to my surprise, all of the material seems to be of early type and ties in on the one hand with early Gulf Coast specimens—polished black incised ware with red paint in the incisions, black bowls with white overfired rims, negative painted, etc. On the other hand, there is a considerable quantity of polished red ware, similar to that in the Colima region, although I believe the forms are different. We found one fat Colima dog, although he was cream-colored instead of red. Most of the ceramics, however, are in Gulf Coast tradition. We found two small undisturbed caves, each of which contains probably 3,000 or 4,000 complete pottery vessels and incensarios, of which in each instance we were able to transport only about fifty. A half-dozen other caves which we entered also contained great quantities of complete vessels, although in lesser amounts. One could easily fill an entirely museum with pottery from these caves alone, and most of it not bad ware.

"Just before we closed camp I got a letter from a Mexican engineer friend of mine in Coatzacoalcos named Juan del Alto, saying that he had just learned of the existence of some new stone monuments which had recently been found by the natives on the Rio Chiquito, a tributary of the Coatzacoalcos in southern Veracruz. We went to this site and spent two days clearing stones for photographing, and finding twelve monuments altogether. The site appears to be another La Venta in importance. It is larger than La Venta, having considerably more mound constructions, and probably eventually there will prove to be more stone monuments. The name of the locality is San Lorenzo, although no one lives there. The nearest village, unfortunately, is called Tenochtitlan and is about four miles distant.

"There are two colossal heads at San Lorenzo, each bigger than the largest at La Venta and better made, but very similar in style. The largest measures 9 feet 8 inches in height, while the other is 8 feet, 10 inches. There is a very nice stone figure of the Olmec tiger god with human body and classic Olmec head like on the Kunz axe. There is a seated figure of a woman holding an infant in her arms, the infant having a human body and jaguar head. There is another figure of a seated woman holding a cylindrical bar on her lap. There is a large stone ball like those found by Doris Stone in Costa Rica. There is a stone aqueduct made of hollowed-out troughs of basalt fitted together and with flat covers of the same material. All in all, it has all the earmarks of a major Olmec site, and I am hoping to work it next season.

"The Mexicans are planning to move the La Venta monuments to Mexico City. It looks very much as though the site at La Venta will soon be turned into an oil field, and they feel that the monuments, if allowed to remain, would be damaged. Petroleos Mexicanos has apparently agreed to finance this work, and Borbolla has gone to La Venta to work out with the engineers there a detailed plan for moving the stones.

"Caso is hoping to conduct a short dig at what he hopes will be an Olmec site near Minatitlan. A very excellent stone sculpture was recently found at this place, representing a human figure and looking something like a wrestler, but done in the pure Olmec tradition."

The many and varied field projects of the Instituto Nacional de Antropologia of Mexico have been continuing as usual. The welcome news has been received that Dr. Alfonso Caso has returned to his anthropological work after several years as rector of the National University. During

the early part of the year he again conducted excavations and a field school of Oaxaca. (*G. F. E.*)

## SOUTH AMERICA

The following is a summary of part of the archaeological research that has been carried on in South America since the last "Notes and News" were published in AMERICAN ANTIQUITY. This refers to work conducted during the years 1942 to the present. It is hoped that in the near future a supplementary summary may be published in this section of the journal which will cover activities not referred to below.

*General.* Since 1940, Dr. Julian H. Steward of Smithsonian Institution has been editing and compiling the Handbook of South American Indians. This monumental work, begun under the stimulus of the National Research Council, and financed by the United States Department of State and the Bureau of American Ethnology, will be published in five volumes as Bulletin No. 143 of the Bureau of American Ethnology. Dr. Alfred Metraux, formerly of the Institute of Social Anthropology, Smithsonian Institution, and Dr. Gordon R. Willey of the Bureau of American Ethnology have served under Dr. Steward as assistant editors on this project. The Handbook is divided into four regional volumes (Southern South America, the Andes, the Amazonian Tropical Forest, and the Circum-Caribbean region) and a final topical volume which will include the index. Archaeological articles are included in all five volumes. According to present plans, these volumes will be published during the years 1946 and 1947.

During the summer of 1944, Professor Cornelius Osgood of Yale University undertook a survey of the principal museums with anthropological collections in South America, a report on which appears in *Acta Americana* for 1945.

*The Caribbean Region.* During the month of September 1944, Dr. Cornelius Osgood of Yale University made an examination of archaeological sites in the North West District of British Guiana and along the Demerara coast of the same country. The sites on the northwest, near the Avuka River, demonstrated a close similarity in culture to those from the Barrancas area, lower Orinoco River, Venezuela. The excavation of sites on the Demerara coast indicated a culture differing from that in the north by having pottery with rough incised decoration and applique work. Osgood is now preparing a summary of the archaeology of British Guiana. The field program was financially supported by the Viking Fund.

In Venezuela, an excavation has recently been made by Walter Dupouy, Director of the Museo de Ciencias Naturales in Caracas, at a site near Puerto Cabello.

In the West Indies, Mr. C. B. Lewis of the Institute of Jamaica, has just excavated a burial cave on that island. Dr. Kurt Fisher of the Bureau D'Ethnologie of Haiti has been conducting a survey of sites in the vicinity of Port-au-Prince; and Dr. Alfred Metraux, of the Smithsonian Institution, has recently made an archaeological collection from the Island of Gonave.

*Ecuador.* During the fall of 1941, Mr. Edwin N. Ferdon of the School of American Research, Santa Fe, New Mexico, ran a reconnaissance survey on the Rio Daule around Colimas, on the Rio Babahoyo between Babahoyo and Guayaquil, and on the Rio Guayas from Guayaquil down to and including the Island of Matorillas. In the same year an additional short survey trip was made to Morro, Posorja, and Ayalan. In 1942, survey work was continued from the northern Ecuadorean highlands down the Mira river to the Alto Tambo divide and from there down the Cachabi and Santiago Rivers to La Tolita. The survey proceeded from there through the estuary country up to the Colombian border on the Mataje River. A final trip was made from Esmeraldas down the coast to Manta and then overland to Guayaquil.

Since 1943, the well-known Ecuadorean archaeologist and scholar, Sr. Jijon y Caamaño has been continuing his work on a set of volumes summarizing the anthropology of Ecuador. Three of these volumes have been published to date. Mr. Max Konanz, now a resident of Ecuador, has been studying his Manabí and Esmeraldas collections and preparing several publications.

In the summer and early fall of 1944, Dr. Wendell C. Bennett of Yale University conducted surveys and excavations in Ecuador. This work was a part of Yale University's Caribbean program which has included investigations in the West Indies, Venezuela, Colombia, and British Guiana. The Ecuadorean survey consisted of examination of significant collections in Quito (particularly in the museum of Jijon y Caamaño), Ibarra, Guayaquil, and Cuenca. Many mound groups (tolas) in the Ibarra region were examined and surface collections made at some of these. The mounds are round, square, and oval in shape, and they vary in size up to 20 by 40 by 10 meters high. Some of the mounds have ramps. The mounds are made of heaped up earth, stone, and rarely of adobes. Some contain burials. Others have cuts in them revealing deep ash and sherd levels. Surface sherds are found on and about the mounds. In the province of Azuay, in the Cuenca basin of the southern Ecuadorean highlands, 18 sites were examined. Surface collections were made at all of the sites, and 10 sites were selected for more intensive excavations. Five of these sites, at which excavations were effected, yielded typical red-on-buff wares pertaining to the Cerro Narrío styles established by Collier and Murra in the adjacent province of Cañar. Two styles were isolated within this major one, namely a Huancarcuchu and a Monjashuaico substyle following the designations of the principal haciendas. The Huancarcuchu sub-style corresponds rather closely to the Collier-Murra Early Cerro Narrío. The Monjashuaico, while clearly related, shows significant differences and is probably slightly earlier. All the Azuay sites with Cerro Narrío styles show the association of a polished black decorated, a polished brown decorated, and various incised wares, none of which was associated in Cañar. Thus, these excavations provide a wider distribution for the Cerro Narrío styles, indicate greater chronological depth, and point up some local differences. Eleven sites are characterized by simple, thick wares. These are chronologically late in time, and have certain Incaic influences. They bear a slight resemblance to the Late Cerro Narrío styles, but seem more sharply differentiated from the Early Cerro Narrío than the Collier-Murra excavations encountered.

As a part of Yale's Ecuadorean survey, Dr. Osgood made surface collections from a number of sites on the Guayas peninsula.

*Peru.* Rafael Larco Hoyle, Director of the Museo Rafael Larco Herrara in Chiclin, Peru, communicates the following:

In 1943 and 1944 studies were completed on several problems in north coast Peruvian archaeology, and others

were begun. Analyses of pottery from Salinar graves as well as Cupisnique type ceramics, all from the valley of Chicama, were concluded. Sr. Larco Hoyle has also discovered the Salinar style in the Viru Valley. Within the Chicama Valley, excavations at the following sites produced Cupisnique pottery; the haciendas Gasñape, Roma, Santa Clara, Casa Grande, Salamanca, and Mocoyope. Recent excavations have also disclosed much new information on the Viru Negative style. In Viru Valley the Viru style was disclosed at the following sites: Castillo de Tomabal, El Cerrito, San Ildefonso, Pampa de Pur Pur, Guanape, Huancaquito, Huanaco, Cerro de Pina, Castillo de Huancaco, Huaca Larga, Saraque, and Huacapongo. In the Santa Valley the Viru style was located at the following: Hacienda Tanguche, Huaco Corral, Santa Clara, and Cerro Ramiro. In the Chicama Valley the Viru style was found only at Hacienda Sausal. Sr. Larco Hoyle concludes that the Viru Valley is clearly the center of the Viru style. In addition, a number of specimens showed blends of the Viru style with the styles of the Callejon de Huaylas, Mochica, and Tiahuanaco. The results of the Viru studies have been published as a monograph in Argentina. It is of special interest that painted skulls were found in graves of the Viru culture. One skull from these graves has been trephined, the only trephined specimen known from the north coast of Peru.

In the Santa Valley, Sr. Larco Hoyle reports a new ceramic type which is found in graves associated with flexed burials. He states that it shows certain relationships with the Viru style. It is named the Santa style. Also, in north Peru, Sr. Larco Hoyle refers to another new, and as yet unnamed, style which cannot yet be placed as to point of origin. He describes this second new style as being of a lead color decorated with orange designs.

A number of reconnaissance trips were made by Sr. Larco Hoyle during the past two years. In this period he journeyed through south Peru, noting two new types of pottery in the Cuzco area. Another trip took him into the Callejon de Huaylas were he found the north coast Mochica style isolated in graves as well as in grave association with the style of the Callejon de Huaylas. Back on the coast, he excavated graves on the left bank of the Santa River revealing typical ceramics of the Callejon de Huaylas style. This Callejon style has also recently been found at Tomabal Hacienda in the Viru Valley by Sr. Larco Hoyle. A trip to the mountains of the Department of Ancash, near Pallasca, revealed ceramics with noticeable Mochica influence. Here, the influence is not limited to pottery but is also seen in stone monuments.

Sr. Larco Hoyle has been particularly occupied with the problem of the Tiahuanaco-derived "influence" or "invasion" of the north coast of Peru. He writes: "The discovery of vast and numerous cemeteries in the Valleys of Santa, Casma, Viru, Chao, Santa Catalina, Chicama, Pacasmayo, and Chiclayo, and in the Callejon de Huaylas have led me to believe that we are not treating with a cultural influence but with an empire of these people." He has also been studying the spread of the people of the Lambayeque Valley as this can be seen in the Valleys of Pacasmayo, Santa Catalina, and Santa.

Sr. Larco Hoyle further writes that one of his most interesting discoveries has been the finding of analogies between the Mochica bean writing of Peru and the Maya hieroglyphs. He has recently published upon this subject in the journal "Méjico Antiguo" and in the "Relaciones" of the Sociedad Argentina de Antropología.

During the past two years the Museo Rafael Larco Herrera has increased its ceramic collections to a total of 34,386 acquisitions. The newly accessioned material has come to the museum from all parts of Peru. In particular, Sr. Larco refers to collections from the Ica Valley which he has recently classified. (*G. R. W.*)

### New Finds at Borax Lake, California

Dr. M. R. Harrington, of the Southwest Museum, who has been engaged in a three-month's field season at the Borax Lake site which yielded Folsom points during the earlier excavations, has just reported on some discoveries. An unmistakable Folsom point base was found at a depth of 25 inches. Further specimens include an unfinished Folsom point at a depth of 4 feet and a Folsom uniface flake knife at a depth of 77 inches. He adds:

"Most of our finds are more like Lake Mohave than Folsom, however, though a number of scrapers, gravers, etc., might be either, and some things are peculiar to this site."

He states that a trench about 50 feet long, 6 feet wide, and from 7 to 9 feet deep has yielded some 700 to 800 specimens good enough to be recorded.

(*E. W. G.*)

### Committees Appointed by the President

In accord with Article VII of the Constitution, President Guthe has appointed the following committees:

Budget Committee: Frederick Johnson, *Chairman*, and the Executive Committee.

Auditing Committee: Leaman F. Hallett, *Chairman*, J. O. Brew, Ripley P. Bullen.

Nominating Committee: Frank H. H. Roberts, Jr., *Chairman;* W. C. McKern, W. D. Strong.

Program Committee: Henry B. Collins, Jr., *Chairman*, Waldo R. Wedel, Gordon R. Willey.

Membership Committee: Irving Rouse, *Chairman*, Robert F. Heizer, T. M. N. Lewis, E. B. Sayles, P. F. Titterington.

Resolutions Committee: Gordon F. Ekholm, *Chairman*, J. Alden Mason, Waldo R. Wedel.

### Nominations for New Officers

Before the annual meeting, the Nominating Committee will consider the names of persons to be nominated for the position of President, two Vice-Presidents, Editor, and two members of the Council. Members are invited to make any suggestions regarding the names of persons to fill these offices to Dr. Roberts, Bureau of American Ethnology, Smithsonian Institution, Washington 25, D. C.

# SOCIETY FOR AMERICAN ARCHAEOLOGY ANNUAL MEETING—1945

The Society for American Archaeology held its tenth annual meeting on May 19, 1945, at the Cosmos Club in Washington, D. C. The Council meeting was called to order at 1:30 P.M. by President J. Alden Mason. On a motion it was voted to adjourn the council meeting and open the annual business meeting of the Society. Twenty-six members were present.

The minutes of the ninth annual meeting, 1944, were not read but were approved as printed in AMERICAN ANTIQUITY, Vol. X, No. 2, October, 1944.

## REPORT OF THE SECRETARY

The ninth annual meeting of the Society for American Archaeology was held at the Cosmos Club in Washington, D. C., on May 13, 1944. The minutes of this meeting were printed in AMERICAN ANTIQUITY, Vol. X, No. 2 (October, 1944).

During the past year, 1944–45, President Mason appointed the following committees, as provided by the constitution:

*Budget Committee:* F. Johnson, Chairman; J. A. Mason; W. R. Wedel; D. S. Byers; E. W. Haury; M. R. Harrington; J. A. Ford.

*Auditing Committee:* Maurice Robbins, Chairman; J. O. Brew; L. F. Hallett.

*Nominating Committee:* N. C. Nelson, Chairman; E. W. Haury; A. C. Parker.

*Program Committee:* F. H. H. Roberts, Jr.; Chairman; Henry B. Collins; J. H. Steward.

*Committee on Local Arrangements:* F. M. Setzler, Chairman; N. M. Judd; W. R. Wedel.

In accord with recommendations made at the last annual meeting, the President also appointed a Planning Committee to examine the quarterly progress reports and summaries of Work Projects Administration archaeological projects deposited in the U. S. National Museum, and to consider various phases of post-war archaeology. This committee consisted of the following members: F. Johnson, Chairman; E. W. Haury; J. B. Griffin.

On authorization of the Executive Committee, Dr. F. H. H. Roberts, Jr., was appointed the Society's representative to the council of the Inter-American Society of Anthropology and Geography.

In July, the Council voted to allocate not more than $450 as the Society's share of publication costs for Memoir No. 2, entitled *The Tchefuncte Culture, an Early Occupation of the Lower Mississippi Valley*, by J. A. Ford and G. I. Quimby.

In December, the Council also set the time and place of the tenth annual meeting of the Society as May 19, 1945, in Washington, D. C. No special, joint, or regional meetings of the Society were authorized by the Executive Committee.

Respectfully submitted,
WALDO R. WEDEL, *Secretary*

The report of the Secretary was accepted.

## REPORT OF THE EDITOR

During the year 1944–45, the Society published Volume X of AMERICAN ANTIQUITY, amounting to 432 pages, and one memoir, *The Tchefuncte Culture, an Early Occupation of the Lower Mississippi Valley*, by Ford and Quimby. The memoir, which appeared as a supplement to Number 3 of the volume, was financed in part by the Society and in part by the School of Geology of Louisiana State University and the Louisiana State University Press.

Careful consideration of the detailed costs of publishing the journal makes it apparent that this operation is being carried on at a figure which approaches the minimum, given the present format. Any further economies which might be effected would be negligible. However, this is not to say that the Society's publication program is being conducted in the most economical fashion possible. By changing the format to a two-column page, by increasing page size to the maximum which can be handled at minimum cost by the press, and by making a slight alteration in the type, it should be possible to reduce costs materially. Savings should be great enough to permit the publication of one more article in each issue. Preliminary designs indicate that this can be done without detracting from the appearance of the magazine. In new format, the magazine will be approximately one inch larger in both width and length; the type page will be an inch and a quarter wider by an inch and five-eighths longer. The number of pages in each issue will probably be no greater than sixty-four, but there will be seventy-five percent more words on each page than now appear, according to the present format.

An article in the last issue of the journal, entitled "The Writing of American Archaeology," by Mrs. Harrison, calls attention to one of the greatest weaknesses of archaeological writing—its forbidding style. Although most of us are able to talk about our subjects lucidly, and in an interesting fashion, the effort of putting our thoughts on paper results in a stilted style which all too frequently robs the topic of appeal for those for whom it is not required reading.

In this we are defeating our own ends. The Society for American Archaeology is comprised of six hundred twelve individuals and one hundred forty-one institutions. Only a small minority of the membership are archaeologists by profession. Beyond question, only a minority of the membership is interested in articles aimed at the specialist, particularly those articles couched in clumsily constructed sentences, often composed of abstruse phrases. It seems fair to ask whether authors themselves really understand the meaning of certain words, at times all too evidently inserted as window-dressing. Yet the editor cannot ghost-write these manuscripts completely.

Archaeology cannot live without technical descriptions and detailed discussions of artifacts or circumstances surrounding their discovery. Such material does not lend itself to engaging prose. It is frequently possible to present details in tabular form, especially when a series of articles is under discussion, or to use suitable paragraph headings when tabular presentation is not feasible. All too often such matters are treated in a ponderous and soporific style which influences the entire manuscript. Details and technical descriptions are the skeleton upon which our archaeological structure has developed. The flesh and blood of discussion and exposition are required to make it a functioning body; without them any science will die.

Without doubt our members are interested in archaeological subjects, else they would not have taken the trouble to join. Libraries join because of demand on the part of readers. Is it not eminently sound to consider the interests of those who support the Society? Shall our archaeologists retreat into their cells, concerning themselves primarily with classificatory details or esoteric aspects of their particular subjects, forgetting that there is an audience anxious to learn of the newest developments? If so, it is inevitable that they will write for a circle that grows progressively smaller. If, on the other hand, our students of archaeology realize that the general public is eager to know about their work, and remember that a subject presented in an informative and easy style will interest many people who are now repelled by the cumbersome style and excessively dry subject matter of much archaeological literature, and if, in writing, they govern themselves accordingly, they will not want for readers nor backers.

Another aspect of archaeological writing which is most disquieting to many of our members is the refusal of archaeologists to make an immediate release of a preliminary statement while subjects have current interest. On his return from the field, an archaeologist probably has sufficient information to prepare a preliminary account. Undoubtedly reluctance to do this is based on a fear of being misquoted or of having misstatements circulated. It is true that even the most carefully guarded statement may be abused by hasty readers anxious to get support for a theory or with an eye for sensational news. Yet it seems possible for a returning field worker to make some report of his work, with all proper qualifications, in the pages of an archaeological journal. Newspapers frequently carry stories of archaeological work; often they are correct in all details. We rely on newspapers to inform the general public who do not see the formal releases of most of our learned institutions.

It is usual for the worker fresh from a dig to feel that he must look up distributions and secure comparative data in order to interpret the full significance of his finds. As a result, he has no time to prepare a preliminary report for AMERICAN ANTIQUITY. It frequently happens that the official release is out before the passing years have afforded an opportunity to prepare such a paper.

Unfortunately the institutional publication which carries the full account is only too often circulated in a very narrow field, usually including

a number of institutions and certain favored individuals. In all likelihood, the archaeologically minded public never has an opportunity to hear of the matter and never will. In all fairness, might it not be wise to release some of the information that is circulated for years via the grapevine? AMERICAN ANTIQUITY circulates among people interested in archaeological matters. Without doubt, a preliminary account, published in this way, would sell a number of copies of the final report which would not otherwise be sold.

This is by way of being an appeal to archaeological writers to write in such a way that they can be understood, and to present their articles in as interesting a fashion as possible. It is also an appeal on behalf of the largely unexpressed desire of our members to be given "news while it is news." If we fail to realize that we must interest the supporters of our Society, we shall find the Society dying on its feet.

Respectfully submitted
DOUGLAS S. BYERS, *Editor*

The report of the Editor was accepted.

On recommendation of the Editor, it was moved that a new and more economical format be adopted for AMERICAN ANTIQUITY, and this motion was unanimously approved after some discussion.

## REPORT OF THE TREASURER

### ACCOUNT OF MEMBERSHIP

Changes in membership during fiscal year 1944–45

| | Active | Institutional | Life | Benefactor and Honorary |
|---|---|---|---|---|
| 5/1/44 | 586 | 132 | 11 | 0 |
| New members | 65 | 11 | | |
| Reinstated | 18 | | | |
| Resigned | 16* | 2 | | |
| Dropped, no address | 6* | | | |
| Dropped, arrears | 31 | | | |
| Deceased | 4 | | | |
| 4/30/45 | 612† | | | |

Type of Account

| | | |
|---|---|---|
| Fiscal | 578† | 79 |
| Fiscal prepaid | 33 | 7 |
| Calendar year | 1 | 55 |
| Exchange | | 10 |
| Complimentary | 3 | 4 |

* At least 12 members severed their connections with the Society because they joined the armed services. It was necessary to drop others because their addresses were changed without notice.

† 78 members are in the armed services; one is a prisoner of war.

### SOCIETY FOR AMERICAN ARCHAEOLOGY

#### BALANCE SHEET

*Resources*

| | | |
|---|---|---|
| Cash in checking a/c—General operating balance | | $1,665.03 |
| Publication fund | | 724.69 |
| Dues receivable | $ 26.00 | |
| Miscellaneous accounts receivable | 265.23 | |
| | $ 291.23 | |
| Total general operating assets | | $2,680.95 |
| Cash in checking a/c—Planning Committee | | 483.87 |
| Permanent fund (Life Membership) savings a/c, | | 611.14 |
| | | $3,775.96 |

*Liabilities and Capital*

| | | | |
|---|---|---|---|
| Dues prepaid | | | $ 281.00 |
| Estimated bills payable | | | |
| Estimated cost of publishing AMERICAN ANTIQUITY, Vol. X, No. 4 | $550.00 | | |
| Estimated Secretary's a/c, annual meeting, etc. | 15.00 | | |
| Estimated annual meeting expense | 75.00 | | |
| | | $ 640.00 | |
| Total Liabilities | | | $ 921.00 |
| Restricted capital | | | |
| Planning Committee | $483.87 | | |
| Permanent fund | 611.14 | | |
| | | $1,095.01 | |
| Free capital | | 1,759.95 | 2,854.96 |
| | | | $3,775.96 |

#### OPERATING STATEMENT

*Receipts*

| | | | |
|---|---|---|---|
| Beginning balance forward 5/1/44 | | | $2,119.98 |
| Dues and subscriptions | | | |
| Prior years | $ 23.00 | | |
| 1944–45 | 2,781.05 | | |
| Prepaid | 257.00 | | |
| | | $3,061.05 | |
| Contributions | | $ 277.50 | |
| Sale of AMERICAN ANTIQUITY | | 361.50 | |
| Receipts for reprints | | 317.36 | |
| Reimbursement for illustrations | | 75.80 | |
| Sundry | | | |
| Rec'd from bank coll. charges | $ .65 | | |
| Sale junked cuts | 2.69 | | |
| Sale strip list | 2.77 | | |
| Memoir | | | |
| Trans. from Pub. Fund | 385.35 | | |
| Rec'd from L.S.U. | 215.55 | | |
| Planning Committee | | | |
| Rec'd from Viking Fund | 1,500.00 | | |
| Refund | 7.34 | | |
| | | $2,114.35 | |
| Total cash received | | | $6,207.56 |
| Total receipts | | | $8,327.54 |

*Expenditures*

| | | | |
|---|---|---|---|
| Publishing AMERICAN ANTIQUITY | | | |
| Printing | $1,757.78 | | |
| Illustrations | 561.34 | | |
| Distribution | 76.22 | | |
| Reprints | 271.07 | | |
| | | $2,666.41 | |
| Publishing Memoir | | 816.45 | |
| Editor's account | | 306.58 | |
| Treasurer's account | | 224.33 | |
| Sundry | | | |
| Annual meeting 1944 | $ 25.00 | | |
| Transferred to Pub. Fund (from a/c of 1943) | 600.00 | | |
| Transferred to Pub. Fund | 500.00 | | |
| Dues I.S.A. & G. | 6.00 | | |
| Planning Committee expenses | 1,023.47 | | |
| Miscellaneous | 10.40 | | |
| | | $2,164.87 | |
| Total cash paid | | | $6,178.64 |
| Total cash on hand 4/30/45 | | | $2,148.90 |

| | |
|---|---|
| Planning Committee balance... | $ 483.87 |
| General operating balance..... | 1,665.03 |
| | 2,148.90 |

*Permanent Fund*

| | |
|---|---|
| 4/30/44 Brought forward..... | $ 599.10 |
| 10/15/44 & 4/15/45 Interest..... | 12.04 |
| 4/30/45 Balance..... | 611.14 |

*Publication Fund*

| | |
|---|---|
| 5/23/44 Deposit from Working Fund a/c of 1943–44..... | $ 500.00 |
| 6/5/44 Contribution..... | 100.00 |
| 10/15/44 & 4/15/45 Interest..... | 10.04 |
| 4/30/45 Deposit, transferred from Working Fund a/c of 1944–45..... | 500.00 |
| | $1,110.04 |
| 4/17/45 Society's share of Memoir #2 (subtract) ..... | 385.35 |
| 4/30/45 Balance..... | $ 724.69 |

Respectfully submitted,
FREDERICK JOHNSON, *Treasurer*

The report of the Treasurer was accepted, subject to the report of the Auditing Committee.

## REPORT OF THE AUDITING COMMITTEE

The undersigned, appointed as the Auditing Committee, report that they have examined the Treasurer's Accounts, as submitted for the fiscal year 1944, and find them correct.

MAURICE ROBBINS, *Chairman*
JOHN OTIS BREW
LEAMAN F. HALLETT

The budget for 1945–46 was accepted as read.

In the absence of members of the Nominating Committee, the President requested the Secretary to read the slate proposed by that Committee and forwarded by its Chairman under date of April 19, 1945:

President: Carl E. Guthe
First Vice-President: James B. Griffin
Second Vice-President: Gregorio Hernandez de Alba
Member of the Council: Gordon F. Ekholm (1945–49)
Member of the Council: E. W. Gifford (1945–49)
Member of the Council: M. W. Stirling (1945–46, to serve out Guthe's term)

There being no nominations from the floor, the Secretary was instructed to cast one ballot for the official slate, and the officers were thereupon declared elected.

The Committee on Resolutions (Setzler, *Chairman*, Rouse, Wedel) presented the following resolutions which were adopted:

1. *Be it resolved:* That the Society for American Archaeology record its deep sense of loss in the deaths of the following members: William H. Campbell, Twentynine Palms, California; Philip Ainsworth Means, Pomfret, Connecticut; Omar P. Steele, 1694 Jefferson Street, Muskegon, Michigan; George C. Vaillant, The University Museum, University of Pennsylvania, Philadelphia, Pennsylvania; C. O. Warnock, 4324 Park Avenue, Indianapolis, Indiana.

2. *Be it resolved:* That the Society for American Archaeology express its sincere appreciation to the Viking Fund for generous assistance in connection with the work of the Planning Committee of the Society.

3. *Be it resolved:* That the Society for American Archaeology express its cordial thanks to the Anthropological Society of Washington for the refreshments served during the evening session of the annual meeting.

It was moved, seconded, and voted that the Secretary send a letter of thanks to the president of the George Banta Publishing Company, Menasha, Wisconsin, expressing the Society's appreciation for the kind services extended by the company over a period of years.

## REPORT OF THE PLANNING COMMITTEE

The Planning Committee was formed July 20, 1944, when Dr. J. Alden Mason, President, appointed the undersigned to serve. The Committee began work early in the fall. Preliminary correspondence resulted in the publication of the statement in AMERICAN ANTIQUITY, Vol. X, No. 3, 1945. As it was found that the Committee could not proceed further than this without funds, application was made to the Viking Fund which granted $1,500.00 to defray expenses. The Committee is indeed grateful to the Viking Fund and to Dr. Paul Fejos, Director of Research, for this generous and enthusiastic support. If it were not for this, the accomplishments of the Committee would indeed be small.

The first meeting was held in Washington between January eighth and thirteenth. During this meeting the Committee discussed the background of W.P.A. with a large number of people. Much time was spent in surveying Quarterly Reports and other data deposited by W.P.A. in the Department of Anthropology of the United States National Museum. The result of this survey was a decision to prepare an index to the archaeological material which was the basis of the Reports. It is believed that such an index will be useful to all archaeologists. Several units were chosen as representative of various types of reports and an analysis resulted in a decision that the data of use to archaeologists could be tabulated under the following headings.

State
Sponsoring Institution
List of Sites (Location by Counties)
Type of Work
  Survey
  Test Excavation
  Excavation
Location of Field Data
Location of Collections
Cultural Affiliations
Publications
Manuscripts

Tabulation of the information was continued in March. The Committee engaged the services of Mr. Paul Cooper who spent two long, hard weeks listing available information concerning more than nine hundred sites. Here may we express the gratitude of the Committee to Mr. Cooper. His thorough and conscientious work on this tedious job has made possible the considerable progress reported here. Reports from five states have not yet been recorded and it is estimated that two weeks will be required to complete this phase of the job and to check some of the results.

The next task is to make final drafts of the tables which will be sent to various organizations and individuals. We do this in the hope that the tables can be checked and that information can be added to them. It is obvious that this particular task will require a great deal of correspondence. Secretarial assistance will be required. Before publication, a number of subsidiary sections will be prepared. These include lists of the W.P.A. reports available and of the personnel involved in W.P.A. archaeology. To these will also be added a bibliography of publications and manuscripts describing the recovered archaeological material. The completion of the whole job will be marked by an attempt to assay the value of the W.P.A. program.

At the beginning of the Committee's work, several questions arose. One of the more difficult of these concerned the use of the reports. The reports were submitted to W.P.A. and, being their property, were, in a sense, public documents. During the hectic days when W.P.A. was being abolished, the reports were deposited in the United States National Museum. This was done so that they could be of use to archaeologists. However, few people knew about this and, moreover, a number of restrictions were placed on the reports so that it was difficult, if not impossible, to use them. The restrictions were designed to prevent misuse of the data included in them, thus protecting the sponsoring organizations and the individuals concerned. It was also assumed that the restrictions would protect the U. S. National Museum from criticism.

This is mentioned in order to point out clearly the position of the Planning Committee. The reports are the key to a wealth of data which has been amassed through the expenditure of public funds. At the moment it is difficult to find out just what was accomplished by W.P.A. In order that future archaeological work may be pursued rapidly and accurately there is an urgent need for providing archaeologists with the means by which they can find out what has been done and what is now hidden in the records. The Planning Committee expects that this index will do exactly this.

In compiling the index, the Committee does two things, both of which more than satisfy the spirit and the letter of the restrictions. In the first place, the index simply will be a means by which archaeologists can locate data which were brought to light. It is not within the purpose of an index to evaluate the subject matter. In no sense of the word does this index use or analyze the material in the reports, neither will it be possible for readers to employ the data in archaeological analyses. Secondly, it is obvious

that the tables could not be completed, nor could they be trusted for accuracy, until they have been submitted to the organizations which sponsored the archaeological work. It is expected that once these have been checked the various organizations will approve publication of those data.

In addition to the tables themselves, the question of the value of the W.P.A. program arose. It was recognized that this was a thing of the past but, in view of present developments, it seemed wise to consider the advantages and also the disadvantages which arose from conducting archaeological work on such a large scale. Without reference to specific instances, generalizations were developed which, it is hoped, will be of assistance in organizing future archaeological programs of this type.

Perhaps the most serious criticism which can be leveled at W.P.A. archaeology is that it lacked adequate, centralized control. It has been said that "there did exist a guiding force to improve the procedure, supervision, sponsoring agencies, etc." While some general improvements in scientific work were made, these were, in too many instances, inadequate. Serious mistakes were made from the beginning to the end of the program. Political expediency seemed to be the rule and only rarely was it recognized that proper scientific results could only be obtained by insistence that the work be done properly. If this so-called "guiding force" had taken the initiative at the beginning, the ensuing discussion and criticisms would have resulted in the formulation of a more acceptable program. At least the archaeological results would, in many cases, have been better than they are. The whole field of archaeology should be deeply grateful to those men in charge of local or regional operations who, with little support from the top, insisted upon, and successfully carried through, programs of lasting scientific value. Sometimes this was done in the face of almost insuperable difficulties, the chief of which was lack of a centralized, controlling body having a realistic point of view and some initiative.

One of the major problems posed by the developments of W.P.A. was due to the mixing of objectives. There was, on the one hand, the problem of relief and, on the other, the scientific problem. To those interested in providing work for the unemployed, archaeology, as they conceived it, was ideal; men could work on archaeological sites without competing with local businesses. As soon as this dawned on administrators, projects were expanded, in some cases to absurd proportions. As this expansion took place, the field of archaeology did not present its case forcefully enough. It is probable that if the so-called guiding force, perhaps combined with an organized body of archaeologists such as the Society for American Archaeology, had forcefully presented the needs and the aims of the science, a program which better served both archaeology and relief could have been worked out. One very important consequence would have been the definition and publicizing of scientific objectives. As the matter stands now, an extremely large number of people who either worked on or observed the progress of the program have erroneous ideas concerning archaeology. In the extreme, too many people regard archaeology either as a hobby or as an inconsequential endeavor which can be taken up by a mass of hungry people.

These harsh words can be taken as criticism of a single aspect of the W.P.A. program, but it is obvious that there are many more. These involve the whole archaeological field. One of the major difficulties with the W.P.A. program was administration. Labor problems and general organizational programs were, for the most part, in the hands of either state or federal governments; sometimes they were controlled by both in the most complicated manner. In general, archaeologists were not prepared for such administrative duties. Often they were not able to adjust themselves to the situation and they failed to attain the scientific results because they could not handle all aspects of the job. In developing future programs scientific objectives should be clearly recognized and archaeologists in charge should be relieved of administrative details so they can devote most of their time to scientific work. In recommending that administrative detail be left to a special branch of the project we do not imply that the archaeologists should be relieved of responsibilities in these matters.

In summary, the most serious aspect of these criticisms point to the lack of adequate organization and a lack of coordination within the scientific field. There was no organization which would see to it that qualified institutions, or personnel, were assigned to specific tasks. Furthermore, there was no authority which would make sure that the archaeological work was done properly and that it was brought to completion. It is also true that no adequate and efficient coordination between the necessary scientific procedure and the equally essential administrative details was worked out. These are matters which should have been attended to at the beginning by the people who had over-all control of the program.

This criticism, which is a serious one, makes no mention of various extenuating features of the W.P.A. program. The whole situation was one which grew almost madly during the space of a very few years. It is also true that there were many overtones, largely of a political nature. Because of the lack of foresight and organization, expediency was made the rule. These may be good reasons for instances where the program failed dismally to produce the archaeological data which should have been forthcoming. However, it should be noted that an efficient organization of archaeology and the institution of a strong authority would have improved the program. The purpose of this statement is not to indulge in recriminations but to point out that future programs which are in any way analogous must be organized more fully; that a strong central body with a considerable amount of authority must be put in charge. Three features of this organization must be worked out. These are: (1) adequate provision for handling the administrative detail which goes with any federally controlled program; (2) provision for the selection of properly qualified organizations and personnel; (3) some means of making certain that the work is not only done properly but that it shall be carried to completion and published in a manner commensurate with recognized standards. A correlative of this is that the basic field data and the collections must be preserved in such a way that they may be perpetually available to scientists and the general public.

Additional generalizations need not be included here; they all refer back to the problem of organization. For the most part, criticisms involve details of procedure which, now they are known, can be improved so that future programs can be made to work smoothly and more productively.

In spite of these criticisms, the value of the work done under W.P.A. is evident. At the moment, estimates of the actual cost of the program have not been made. It is true that the program was an extremely costly one. Probably there was a good deal of waste but it must always be realized that the relief aspect of the program was overemphasized. The archaeologists involved had little or no authority over the funds expended. The work which the Committee has done to date supports several statements to the effect that W.P.A. produced more sound archaeological work than has ever been done in a similar period. It is probable that were it possible to eliminate the expense of the social experimenting from amounts expended we would find that the actual cost of the archaeological work was not exorbitant. However, when we consider the fact that some of the data are either not usable or have become lost we run up against an economic fact. Present available data, when compared with their total cost, are indeed extremely and inexcusably expensive. The relative cost of future data can be reduced if the programs can include a method assuring the preservation of all data.

During the course of the meeting in January, and particularly in March, the necessity for immediate planning for the future became self-evident. Bills for the institution of "Valley Authorities" in the Ohio, Missouri, Columbia, and Savannah river valleys were before Congress. In addition a general bill to provide for the "creation of conservation authorities" was introduced. These bills were to institute organizations which would be patterned after the T.V.A. It is obvious that should these be passed, the river valleys would be flooded and an extremely large amount of archaeological data would be destroyed. The Committee on Basic Needs in Archaeology and the Planning Committee agreed that something should be done, and done quickly, which would permit the recovery of the material in regions to be flooded. In order to facilitate this task a smaller committee was formed. This was named "The Committee for the Recovery of Archaeological Remains." Frederick Johnson, Chairman of the Planning Committee, was chosen to represent the Society for American Archaeology, A. V. Kidder and William S. Webb were appointed by the American Council of Learned Societies, and J. O. Brew was appointed by the American Anthropological Association. (Webb has been elected chairman and Johnson, secretary.) Frank H. H. Roberts was designated by the Smithsonian Institution to serve in a liaison capacity with that organization and W. D. Strong will serve in a similar capacity for the Committee on Basic Needs in Archaeology. The actual work of this Committee properly belongs in a separate report. Here one can mention the contribution of the Planning Committee to its work. The study of W.P.A. data and the long discussions of many problems, past and future, gave rise to a number of opinions which are fundamental. Basing its ideas largely upon the experience of Major Webb in T.V.A., the new Committee is now attempting to see that archaeological programs devoted to the recovery of materials threatened with destruction are fully and properly

organized. It is obvious that many of these programs will assume large proportions. The Committee has several major objectives. One is to make certain that there is developed an adequate organization having proper administrative control. This organization should be so constituted that the scientific work will be done in a fashion consistent with the modern ideas and ambitions of archaeology. Another is to aid in acquiring legal support for such an organization. This may be accomplished either by writing enabling clauses into the bills now before Congress or by the development of proper agreements between existing government bureaus. In any case, the data which are being amassed by the Planning Committee will become increasingly useful in the development of plans for the future.

Problems connected with conservation of archaeological remains in river valleys are now emergency ones. They have been sadly neglected in the past. We have been accustomed to think that the more esoteric aspects of our work were all that were required of us. Now we are confronted with a practical problem, one which originates with the fact that we live in a society controlled by a specific system of government. In order to survive we must make known to the public the fact that much of the basic data of our science is jeopardized. They must be preserved not only because of their value to archaeology but also because archaeology has values which are of importance and interest in everyday life. We must justify this exposition of our needs with appropriate scientific and popular contributions. Since the Society for American Archaeology is a large and important body of archaeologists it is in a position to represent the archaeological field; to make the needs as well as its contributions known to everyone.

FREDERICK JOHNSON, *Chairman*
EMIL W. HAURY
JAMES B. GRIFFIN

The report of the Planning Committee was accepted as read. It was then moved that this Committee, as constituted, be continued for another year, and this motion was approved.

Dr. J. O. Brew reported briefly on the work thus far of the Committee for Recovery of Archaeological Remains, and the report was discussed at some length.

As matters of new business, Mr. Johnson pointed out the urgent need for increasing the Society's membership and income, and moved that the President be empowered to appoint a committee to be called the Committee on Memberships. This motion was approved.

Mr. Johnson also presented the following motion which was unanimously approved:

"It is moved that the Society for American Archaeology approves in principle the proposition that it become the fiscal agent for the Pre-Columbian Fund. This action is not to be considered as acceptance of any responsibility, nor is it final. The Society authorizes the Treasurer to draw up appropriate agreements and contracts with Kenneth Macgowan and others. Such agreements and contracts shall be submitted for approval to the Executive Committee of the Society for American Archaeology. Approval by this Committee and the signatures of the President and Secretary shall be taken as a decision on the part of the Society to act as fiscal agent for the Pre-Columbian Fund."

A vote of thanks was given Mr. Johnson in recognition of his outstanding services during the past year in connection with various fiscal and committee activities on behalf of the Society.

The annual business meeting was adjourned at 4:45 P.M.

The evening session was called to order at 8:30 P.M. by Dr. W. D. Strong, Chairman, with 30 persons present. The Anthropological Society of Washington generously provided refreshments. The session was devoted to a discussion of American agricultural origins. Dr. C. O. Sauer, on leave from the Department of Geography, University of California, opened the discussion with remarks on some probable prerequisites for beginning of plant domestication, the multimillennial age of many New World domesticates, the multiplicity of domestication centers, and the evidence for pre-Columbian plant interchanges between the Old World and the New. Dr. G. F. Carter, Department of Geography, the Johns Hopkins University, briefly summarized an hypothesis for the dual diffusion of aboriginal agriculture into the American Southwest, including incursions from the eastern United States via the Great Plains. The ensuing discussion emphasized the wide disparity in chronology as envisaged by the plant geographers on the one hand and by the archeologists on the other.

The session came to a close at 10:30 P.M.

WALDO R. WEDEL, *Secretary*

# MEMOIRS

## of the

# SOCIETY FOR AMERICAN ARCHAEOLOGY

The following numbers, may be obtained from the Treasurer, Frederick Johnson:

Number 1. *Big Bead Mesa: An Archaeological Study of Navaho Acculturation, 1745–1812.* By DOROTHY LOUISE KEUR. 90 pages, 4 plates, 5 figures. $1.00.

Number 2. *The Tchefuncte Culture, An Early Occupation of the Lower Mississippi Valley.* By JAMES A. FORD and GEORGE I. QUIMBY, JR., with an appendix on the Skeletal Remains by CHARLES E. SNOW. 113 pages, 12 plates, 23 figures, 3 folding tables. $1.50.

## INFORMATION FOR AUTHORS

AMERICAN ANTIQUITY publishes original papers in the field of American Archaeology and in subjects related thereto, as well as comments, reviews, or discussions on matters pertaining to these fields. Fields include archaeology, ethnology, geography, and such other sciences as have bearing on man's existence or activities in the New World.

Accepted papers are published in the order of their receipt. Except for such papers as may be specially solicited, all papers bear the date of submission.

Manuscripts must be typewritten in standard 8½×11 paper, double spaced, and on one side of the page only. Bibliographies must follow a standard form. Citations from journals should be given as follows:

JENKS, ALBERT E. and LLOYD A. WILFORD
1938 "The Sauk Valley Skeleton." *Bulletin of the Texas Archaeological and Paleontological Society*, Vol. 10.

citations from separate books:

JENKS, ALBERT E.
1936 *Pleistocene Man in Minnesota.* University of Minnesota Press.

Illustrations over and above one page of halftones or the equivalent in line cuts must be paid for by the author or the author's sponsor, Photographs for reproduction should be on a glossy paper, unmounted, and of a proportion suitable for reduction to 5¾×8¾ or a portion thereof, making due allowance for captions. Line drawings should be in India Ink on smooth, hardsurfaced paper, with figures written lightly in pencil on the margin or the back. Galley proof, only, sent to authors. Reprints without covers supplied at the following prices, only when ordered with returned, corrected galley proofs.

| Copies | 1–4 pp. | 5–8 pp. | 9–12 pp. | 13–16 pp. | 17–20 pp. | 21–24 pp. | 25–28 pp. | 29–32 pp. |
|---|---|---|---|---|---|---|---|---|
| 25 | $2.50 | $4.15 | $ 6.15 | $ 6.75 | $ 8.65 | $10.65 | $11.90 | $12.50 |
| 50 | 3.00 | 4.50 | 6.75 | 7.50 | 9.50 | 11.75 | 13.25 | 14.00 |
| 75 | 3.25 | 4.90 | 7.35 | 8.00 | 10.40 | 12.90 | 14.65 | 15.50 |
| 125 | 3.75 | 5.65 | 8.60 | 9.50 | 12.15 | 15.15 | 17.40 | 18.50 |
| 175 | 4.25 | 6.40 | 9.85 | 11.00 | 13.90 | 17.40 | 20.15 | 21.50 |
| 275 | 5.25 | 7.90 | 12.35 | 14.00 | 17.40 | 21.90 | 25.65 | 27.50 |

Covers with title and date of issue of AMERICAN ANTIQUITY will be furnished at the following rates: 25 for $2.50; additional covers 1½ cents each. Plates, printed 1 side, 100 for $2.00; printed 2 sides, 100 for $4.00.

# TABLE OF CONTENTS


Excavations at Kaminaljuyu, Guatemala . . . . . A. V. KIDDER 65
Periods of Prehistoric Art in the Aleutian Islands . . . . GEORGE I. QUIMBY, JR. 76
Descubrimientos Arqueologicos en Tierras de Los Chibchas . . . . . GREGORIO HERNANDEZ DE ALBA 80
Myth and Mammoth in Archaeology . . . . . LOREN C. EISELEY 84
Archaeology in the Rock and Pelican Lake Area of South-Central Manitoba . . . . . CHRIS VICKERS 88
Tool-Making at the Westfield Steatite Quarry . . . . . WILLIAM S. FOWLER 95
Preliminary Report on the Discovery of Surface Sherds on Mono Island, Treasury Group, Solomon Islands . . . . . BERTRAM S. KRAUS 102
Surface Collecting on Tabeguache Creek . . . . . C. T. HURST 105
Philip Ainsworth Means . . . . . S. K. LOTHROP 109
George Clapp Vaillant . . . . . WM. DUNCAN STRONG 113
Wilbert B. Hinsdale . . . . . E. F. GREENMAN 117
Ann Axtell Morris . . . . . 117


## FACTS AND COMMENTS


The Orientation of Middle American Sites . . . . . KENNETH MACGOWAN 118
Miocene Fossil Found in Oregon Kitchen Midden . LEO F. SIMON and CHARLES A. REED 118
Hopewellian Elements in Northern Georgia . . . . . A. J. WARING, JR. 119
An Unusual Oneota Vessel From Minnesota . . . . . JAMES B. GRIFFIN 120
Indian Curiosities . . . . . PAUL WEER 121


## BOOK REVIEWS


KLUCKHOHN: Navaho Witchcraft . . . . . Bailey 122
SATTERTHWAITE: Piedras Negras Archaeology: Architecture . . . . . Roys 123
ROWE: An Introduction to the Archaeology of Cuzco . . . . . Bennett 124
KROEBER: Peruvian Archeology in 1942 . . . . . Bennett 125
HORKHEIMER: Vistas Arqueológicas del Noroeste del Perú . . . . . Kroeber 125
WESLAGER: Delaware's Buried Past . . . . . Robbins 126
LOPATIN: Social Life and Religion of the Indians in Kitimat, British Columbia . Smith 126
TITIEV: Old Oraibi . . . . . Opler 126
HAURY: The Excavation of Los Muertos . . . . . McGregor 127
HALL: Early Stockaded Settlements in the Governador . . . . . Reiter 129
KIDDER: Archaeology of Northwestern Venezuela . . . . . Howard 130
GRIFFIN: The Iroquois in American Prehistory . . . . . McKern 131

NOTES AND NEWS . . . . . 132
ANNUAL MEETING OF THE SOCIETY FOR AMERICAN ARCHAEOLOGY . . . . . 140



AMERICAN ANTIQUITY IS INDEXED IN THE INTERNATIONAL INDEX

GEORGE BANTA PUBLISHING COMPANY, MENASHA, WISCONSIN

65
76

80
84

88
95

102
105
109
113
117
117

118
118
119
120
121

122
123
124
125
125
126
126
126
127
129
130
131

132
140